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IN THE MUNICIPAL INDEX AND ATLAS (the annual reference volume of data and condensed catalogs published by the American City Magazine Corporation) readers will find statistical material, and articles on a wide variety of municipal and public works subjects, not published in the monthly issues of the magazine.

See pp. 17, 18, 20, 107, 109, 111 for catalogs and publications on municipal and civic subjects

For Index to Advertisements see page 130

Nothing is constant but Change

TIME changes everything! Mountains erode, continents appear and disappear, mechanical constructions of only a few years' standing are supplanted by improved designs. Time takes its toll, inevitably, but progress follows in the wake of change.

The leader in any industry must bring out new products and constantly improve the old to keep up with the technical advances in the arts and sciences. Water meter designs are specific examples. It is absurd to think that any meter designed twenty-five or more years ago is as satisfactory today as it was then, just as it is impossible to compare the Model "T" with cars made today by the same manufacturer. The parts in the first and latest model are certainly not interchangeable and they cannot be if proper advantage has been taken of technical developments.

The inherent weaknesses in any design may never be entirely eliminated, but even the most advanced design can be improved by applying the technical development of the future. It would insult the intelligence of engineers and scientists to claim that any meter made today will not be supplanted by a better design within the next twenty-five years. It would be difficult, indeed, to find anyone who thinks that the marvelous automobile of today will not be superseded by a better one tomorrow.

Here at the Pittsburgh Equitable Meter Company we are definitely research minded. We support a meter fellowship at a world-renowned scientific institute, and our own factory laboratories and test groups are constantly at work seeking further improvements in our meters. The water works trade may feel confident that the technical developments of the future, be they designs, materials or methods, will be incorporated in the products of the Pittsburgh-National line.

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Housing for Defense—and After

By Charles F. Palmer, Defense Housing Coordinator:

Every man needed in our defense industries must have a home, and we are going to see that he gets one. . . .

When private industry cannot do the job, for any reason whatsoever, then the government is going to build. The swift tide of world events leaves no time for argument. . . .

The worker who moves into a new community to help make airplanes or tanks or battleships is essential in our rearmament. He is on the industrial firing line day and night. Properly housed, he can and will produce. Badly housed, disease and worse afflict him, and he may possibly become a dangerous clog in the defense machinery. Certainly a man who is proud of his home is not likely to listen long to the subtle suggestions of a saboteur seeking to slow up our defense program and undermine our form of government.

—From symposium on Defense Housing, sponsored by the National Association of Real Estate Boards, in Washington, D. C., April 17, 1941.

By Leon H. Keyserling, Deputy Administrator, General Counsel, U. S. Housing Authority:

The defense program now under way involves public expenditures of about $40,000,000,000.

Defense expenditures for this year 1941 alone will run $10,000,000,000 to $12,000,000,000.

Due largely to the defense effort and its ramifying effects, the national income, which stood at $74,000,000,000 in 1940, will rise to about $90,000,000,000 in 1941.

Due also to the defense program and its ramifying effects, non-agricultural employment, which stood at about 35,000,000 people in 1940, will rise to about 42,000,000 people in 1941.

These figures of gain and progress all along the economic line have their dismal counterpoints—unless we do something about it. They mean that when the defense period is over, whether it be in one year or two years or three years, we shall face a sudden drop of a minimum of $15,000,000,000 and a maximum that may easily run as high as $30,000,000,000 in our annual national income—unless we do something about it.

They mean that we shall face a drop of a minimum of about 7,000,000 and a maximum that may run to 10,000,000 or more in the number of people employed—unless we do something about it.

These figures are simply overwhelming. Their ominous import cannot be denied—unless we do something about it.

The only way to do something about it is to prepare now for a tremendous volume of useful and wealth-producing projects, to be gotten under way as soon as we are fortunately relieved from the necessity of producing armaments which are necessary today but which unfortunately are not wealth-producing. In any such list of useful projects, housing leads the way—and the way out for America at the end of this defense period will be a housing program larger and more imaginative and more vital than anything we have yet even dared to think of—and in this housing program, while private industry will do the larger part, public housing will play a tremendous role.

Every active Local Authority in America is now in training for the defense of America against economic catastrophe tomorrow. There could be no more weighty and serious responsibility resting upon any group of men and women.

—From an address before the annual conference of the National Association of Housing Officials, in Cincinnati, April 18, 1941.

The London "Times" on Planning for War and Peace

THERE is nothing alarming, and certainly nothing incompatible with freedom, in the current catchword of "planning." The freeman is not one who refuses to look ahead, but one who organizes to make freedom secure. The issue is not whether to plan or not, but on what lines we should plan. Here circumstances will limit our choice. Not all the demands of war economy, which have already revolutionized many of our ways of life and thought, will come to an end at the moment when the cease-fire is sounded. The national standard of living stands urgently in need of an overhaul; for, however depleted our resources, there are some whose standard not only cannot be lowered but must imperatively be raised. This will dictate the aim. Attempts in the past to get the economic machine back into gear have gone awry because we though it enough to organize and stimulate production, bringing upon ourselves the anomalies of "under-consumption" and "poverty in the midst of plenty." The consumer has too long been the stepchild both of economists and of politicians. What will be needed most of all when peace is restored is planned consumption. . . .

The problem of unemployment can be solved (or transformed, as at the present moment, into a technical problem of fitting supply to demand) when we recognize in time of peace a social purpose as compulsive and as worthy of sacrifice as the purposes of war. In 1940 the manufacturer foregoes profits, the worker foregoes trade union restrictions on conditions of employment, the consumer foregoes luxuries and lends to the Government to finance expenditure from which no material return is asked or expected. In 1930 a small fraction of these sacrifices would have sufficed to avert the unemployment crisis of the ensuing years, and, at the same time, to bring to the countries now involved nutrition, better education, and more amenities for the leisure of the masses. These sacrifices were not made because they were not called for by any political leader; they were not called for because the lesson had not yet been learned. . . . To formulate a social end, other than war, which will inspire such sacrifices is the cardinal problem. . . .

We must plan for peace as consciously and as deliberately, and with the same common readiness for sacrifice, as we now plan for war. It must not be said that we are more ready to risk our lives than our vested interests, or that peace—unlike war—holds no purpose worthy of the sacrifice of things we prize for a greater common good.

—Excerpts from a 1941 pamphlet containing ten leading articles reprinted from *The Times* of London, available at 10 cents from New York Office, 280 Broadway.

IF YOU ARE "ON THE SPOT" FOR MORE WATER

In these days of high speed production, you cannot afford water shortage. For men, machines, materials—and fire protection, you must have an abundance of water at all times. In the scene above, some 25,000,000 gallons of water daily are being produced from Layne Wells and Pumps for an important industry. Your needs may not be so great—or they may far exceed that amount. In any event Layne—the world's largest water producers—can, with speed and efficiency fulfill your needs. Layne has both the man power and equipment to speedily complete well water systems of any size.

Layne Wells and Pumps are world famous for high efficiency, long life and low upkeep expense. They are designed to stand twenty-four hour heavy duty operation. And furthermore they will pay dividends in savings over water purchased from outside sources.

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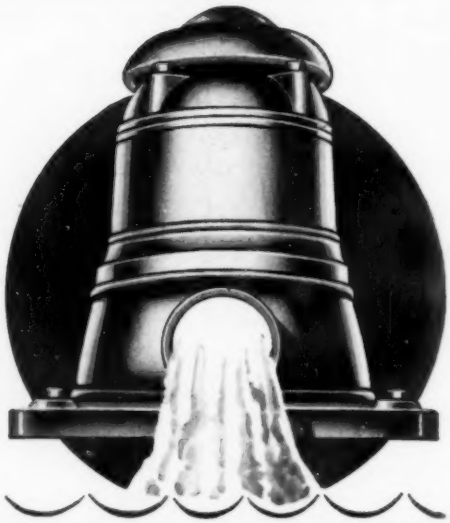

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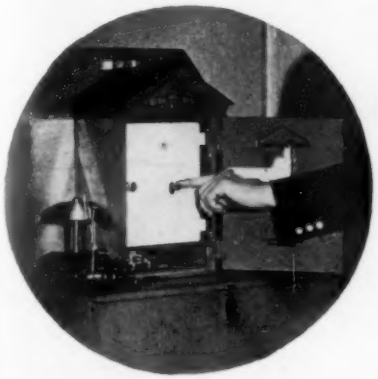
Our Municipal Notebook



The Fire-Alarm System

SOME PAINT MANUFACTURER would gather first-class publicity in nearly every city of the country by producing a paint so distinctive in color or appearance that it would make the fire-alarm box jump into the consciousness of everyone.

The fire-alarm box is the public contact with the fire department. Yet nearly everyone appears so ready to believe that the firemen will appear as a matter of course when needed that he rarely gives the means of summoning them a thought or knows where the box nearest to his home or business is located.

The citizen will engage on a hunt for a mail-box; but many citizens require the services of a fire-alarm box only once or twice in a lifetime. The need then is vital. Fire-alarm superintendents and fire chiefs would have an easier, or a less difficult, time in re-equipping their departments if the local public were intimately acquainted with the existence of the fire-alarm system as one of the major defenses of the city.

The neglect of public recognition of the physical system has extended to the men employed in fire-alarm bureaus, according to a valuable publication just issued by the United States Office of Education and available at the U.S. Government Printing Office for 15 cents. "The Fire-Alarm System" is an analysis of the work of the bureau and its problems, particularly with the problem of developing a training program to do away with indifference, ignorance of duties, carelessness, lack of competent men for employment.

Well-trained and reasonably interested men would eliminate such situations as poor cooperation between fire department and fire-alarm bureau, records that are illegible, inaccurate and incomplete, poor planning on maintenance and extension of system, inadequate box tests and battery service.

Another problem which even the most competent personnel would find impossible to solve is that raised by obsolete equipment in the station and in the shape of lines, cables and auxiliary equipment. This problem can be solved only by winning the appreciation of city officials of the importance of a highly efficient fire-alarm system.

This returns the discussion to the public, because if the public wants an efficient fire-alarm system, the officials are likely to want it too. The first step would seem to be to make the boxes fairly shout at the passerby: "We're for use in case of fire!" The passerby might then answer: "But there are nowhere near enough of you." When the voters make this discovery, they will expect to see the city improve the fire-alarm system and will expect to pay the cost.

Strings Pulled by Two-Way Radio

Municipal communications are becoming increasingly important in the routine operation of city departments. To the vital fire alarm and the trustworthy police telephone and telegraph systems has been added the two-way radio, which is revolutionizing police organization and method and has speeded up fire control.

A call for a broader conception of radio was published in the 1939 edition of THE MUNICIPAL INDEX. "Two-way communication is extending to all vital municipal departments," says that article. The Department of Street Railways of the city of Detroit furnishes an illustration, with its recent equipping of 31 inspection, line, and wrecking vehicles with a special two-way RCA system to be used in emergencies involving life and property. In such an emergency, orders can be given, carried out, and reported on with modern efficiency.

In its recommended procedure for building up the fire department to meet all emergencies, this magazine, in January, 1941, included a municipal Department of Communications, which would centrally direct the movements and operations of all municipal vehicles. The need for this action will be increasingly felt as more city departments install police-radio systems.

Fire Insurance Rates for Public Buildings Cut in New York State

Announcement was made on April 6 by Louis H. Pink, Superintendent of Insurance in New York State, that, after conferences with his department, reduced fire insurance rates had been filed by the New York Fire Insurance Rating Organization for public buildings, hospitals, sanitaria, asylums, jails and public homes, and for educational institutions, colleges, schools, convents and academies in all districts of the state outside of New York City. It is estimated that these reductions will exceed $320,000 on a yearly basis—an average reduction of 25 per cent on all risks concerned. Since this is an average reduction, it will not equal 25 per cent in all individual cases.

Life with Father

AS AN interesting little radio stunt, the three casts that were currently playing Life with Father, in Chicago, Boston and New York, were connected so that each could show how it portrayed a certain incident in the play.

The words were of course the same; but each of the three pairs of players inflected them quite differently.

Specifications are words, very important words. Workmanship is the inflection, different for each manufacturer. That is why so many specifications are merely efforts to obtain the best workmanship. The architect or engineer selects a piece of material or equipment of excellent make, describes it in detail and asks for bids on the description. Knowing the frequent inadequacy of such a specification, the trade name or the name of the manufacturer of the article is often specified with the words "or equal."

Every bidder must meet the same specifications. But are things equal to the same thing equal to each other? They might be except for that certain difference in inflection, in workmanship, in guarantee, in subsequent service, in the manufacturer's interpretation of his continuing responsibility.

Traffic Training Institute

Nine courses of collegiate quality for advanced safety students will be given at The University of California, Berkeley, August 4-16, in The Fourth National Institute for Traffic Safety Training. Full information may be secured from Sidney J. Williams, National Safety Council, 20 North Wacker Drive, Chicago, Ill.

ELLIPSOIDAL gives *Streamlined* appearance to modern ELEVATED STORAGE TANKS

A MODERN, attractive structural design for steel water tanks is often an important factor in the selection of storage facilities for municipal waterworks systems. Ellipsoidal roofs have played an important part in improving and modernizing the appearance of many types of steel tanks. An example of this design is demonstrated by the 750,000-gal. Horton elevated tank shown here, which utilizes the ellipsoidal design both for the roof and bottom. This attractive tank provides gravity water supply for the town of Bedford, Indiana.

Our nearest office will be glad to show you additional interesting designs for steel tanks that have been adjudged practical from both a structual and practical standpoint.

This 750,000-gal. elevated tank serves 3800 water consumers in Bedford, Indiana, which comprises an area of 6 square miles. Daily water consumption averages 1,000,000-gals. The map shows the general location of Bedford with respect to surrounding cities.

Send for the interesting new booklet which illustrates the latest designs and architectural treatments offered in the complete range of Horton radial-cone bottom elevated tanks. No obligation of course.

CHICAGO BRIDGE & IRON COMPANY

Chicago	2127 McCormick Bldg.	Philadelphia	1616-1700 Walnut St.	San Francisco	1033 Rialto Bldg.
New York	3308-165 Broadway Bldg.	Boston	1501 Consolidated Gas Bldg.	Houston	918 Richmond Avenue
Cleveland	2236 Builder's Exchange	Birmingham	1502 N. Fiftieth Street	Tulsa	1625 Hunt Bldg.
Detroit	1501 Lafayette Bldg.	Dallas	1606 Praetorian Bldg.	Los Angeles	1403 Wm. Fox Bldg.

Plants at BIRMINGHAM, CHICAGO, and GREENVILLE, PA. *In Canada:* HORTON STEEL WORKS, LIMITED, FORT ERIE, ONT.

Why not remember to mention THE AMERICAN CITY?

Water-Works Data

Rehabilitating a Watershed Forest

FOLLOWING THE DESTRUCTIVE FIRE in 5,800 acres of watershed land owned by the Water Department of Bremerton, Wash., an extensive program has been set up to rehabilitate this area. The work to date has consisted largely of felling and burning snags and leveling and grading the area to increase and safeguard the water system adjacent to the Puget Sound Navy Yard, a strategically important national defense unit. This project will cost approximately $400,000, of which $170,317 will be furnished by the Federal Government.

Nearly all the 5,800 acres of watershed land owned by the city was logged off years ago, and most of the 3,000 acres of this area, obtained or acquired during the past year, was burned over by a forest fire in August, 1938, which destroyed all the young trees and seedlings and killed most of the larger trees that had been passed up in earlier logging operations. Relief labor crews are now busy removing these hazards and when the work is finished the cleared area will be reforested by young fir trees transplanted from other sections of the watershed where they are now growing too close for development.

Fire trails, 20 feet wide, will be constructed around the out-boundaries of this area to facilitate movement of men and supplies for fire fighting and also to serve as lanes on which to stop fires or start back-fires. All brush, down timber, and inflammable material will be removed and burned.

Public Water Supplies in New Jersey

IN 1915, THE TOTAL NUMBER OF WATER SUPPLIES IN NEW JERSEY was 225; 18 of these supplies had some form of chlorination as a treatment method, and 62½ per cent of the supplies met the bacteriological standards established by the United States Public Health Service for a safe water. In 1930, there were 266 public water supplies, 82 were being chlorinated, 67 per cent of the supplies were meeting the standards, and they were furnishing 72.5 per cent of the water delivered by public water-supply systems. In 1939, there were 283 supplies; 142 were being chlorinated, and 92 per cent of these supplies met the standards established for a safe water by the United States Public Health Service and the New Jersey State Department of Health. These supplies were furnishing 99 per cent of the water delivered by public water-supply systems.

PUBLIC POTABLE WATER-SUPPLY DATA, STATE OF NEW JERSEY

Year	Number of Public Potable Water Supplies	Number of Chlorinated Supplies	Per Cent of Supplies Meeting U. S. Public Health Service Standards	Per Cent of Water Consumed from Public Water Supplies Meeting Standards
1915	225	18	62.5	
1920	238	35	57.0	
1925	259	46	53.5	
1926	261	46	43.5	
1927	270	56	49.0	
1928	267	62	49.5	
1929	265	72	64.0	
1930	266	82	67.0	70.5
1931	272	86	75.0	95.5
1932	276	95	76.0	97.0
1933	275	103	80	99
1934	274	106	79	98.0
1939	283	142	92	99.0

For over a decade and a half no epidemic from water-borne diseases has been traced to a public potable water supply operated in accordance with the recommendations and orders of the Department of Health of the State of New Jersey, according to Clyde Potts, President of the Department.

Data on Water Services in Cambridge, Mass.

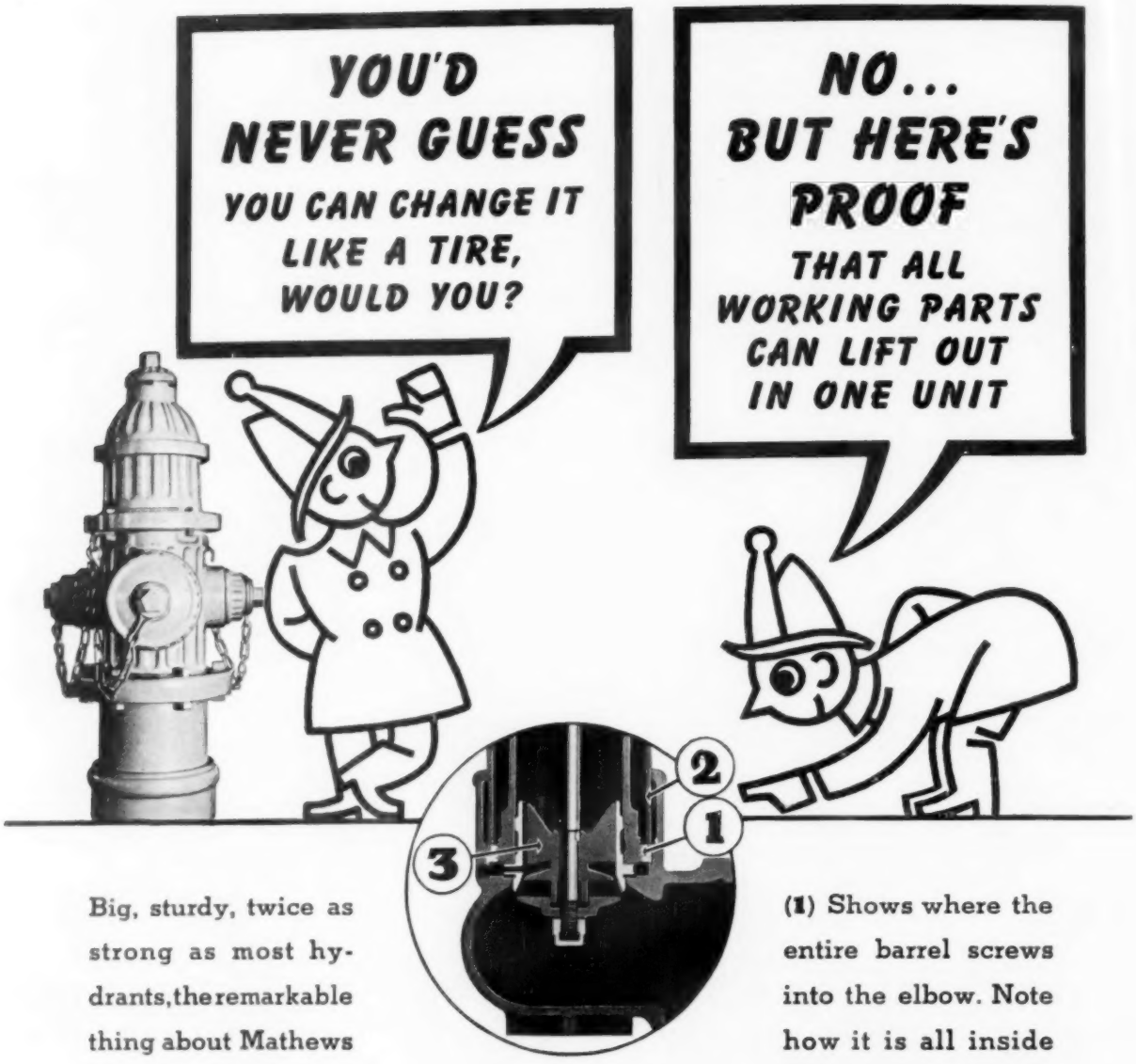
THE ANNUAL REPORT of the Water Board of Cambridge, Mass., Timothy W. Good, General Superintendent, for the year ending December 31, 1939, reports that galvanized iron, cast iron and lead line pipe are used for water services. During 1939, 2,715 feet of services were installed in sizes from ¾-inch to 8-inch, totaling 64 new installations. This brought the total number of services in use on January 1, 1940, to 17,329, with an average length of 42.42 feet. The average cost per supply or service, including supplies up to 6 inches, is $73.58, of which $57.74 is for labor.

Fifteen meters were added to the system in 1939, bringing the total number up to 13,851. The services in Cambridge are 99 per cent metered.

Watch the White Flag, Your Water Bill Is Due!

HOUSEHOLDERS OF WHITEWRIGHT, TEXAS, watch the flagstaff at City Hall after the middle of the month, and if the white flag is not up they rush to pay their water bills. Whitewright receives money for water bills from the 1st to the 20th of the month, and on the 20th the flag goes up to warn them that after that date a 10 per cent penalty is added. So, rather than surrender that extra 10 per cent, consumers take heed and pay up.

The new 288,000-gpd water filtration plant at Hallock, Minn., built with WPA labor from the plans of E. L. Lium, consulting engineer, Grand Forks, N. Dak., at a cost of $47,474. This reinforced concrete structure contains 615 cubic yards of concrete, and the building rests on 193 piles 20 feet long


YOU'D NEVER GUESS YOU CAN CHANGE IT LIKE A TIRE, WOULD YOU?
NO... BUT HERE'S PROOF THAT ALL WORKING PARTS CAN LIFT OUT IN ONE UNIT
1
2
3

Big, sturdy, twice as strong as most hydrants, the remarkable thing about Mathews is that the whole barrel unscrews and lifts out. Nothing like it for repairing accidents, making overhauls, changing grades, and renewing hydrants.

(**1**) Shows where the entire barrel screws into the elbow. Note how it is all inside the loose protection case (**2**). That's why you can lift out *all* working parts, including main valve and drain valve with their seats (**3**). Write for details or prices.

MATHEWS HYDRANTS

Made by R. D. WOOD COMPANY

Manufacturers of Sand Spun Pipe (centrifugally cast in sand molds) and R. D. Wood heavy-duty gate valves for water works

400 CHESTNUT STREET, PHILADELPHIA, PA.

Grading and Street Paving

Street Paving in Asuncion, Paraguay

LAST YEAR the Municipal Department of Public Works of Asuncion, Paraguay, prepared projects to pave 105,157 square yards of streets with rough stone in the traditional Asuncion manner, and actually completed 31,960 square yards by the end of 1939. This work has been continued and the former common aspect of streets in the outskirts, appearing like dry river beds, is slowly diminishing.

Of greater interest have been the efforts of the Mayor to pave the principal arteries of the business district and the principal avenues with asphalt, for it is to be noted that until recently Asuncion had only a little over 1.24 miles of asphalt paving, on three main blocks and a few connecting blocks. The present project calls for 44 blocks of asphalt for which the contract has already been let, and 230 blocks additional for which bids were called recently.

Actual paving under the first contract was delayed owing to difficulties encountered in obtaining the required machinery from Argentina under that country's export control over metals and their manufactures, but this obstacle has been overcome and work is going forward. The preliminary tearing up of the street-car tracks on certain of the streets affected by the paving project was started even before the machinery had arrived.

—*Automotive World News* of the Bureau of Foreign and Domestic Commerce, Department of Commerce.

An Adams No. 303 Motor Grader Used by the City of Ansonia, Conn., to Maintain Outlying Streets in Good Condition

Portland Street Work Eliminates Bottleneck

A BOTTLENECK of one of the entrances to Portland, Ore., has been eliminated by the completion of widening and other improvements at the western end of West Burnside Street. The work includes clearing, widening, retaining walls, removal and reinstallation of sidewalks, curbs, driveways, catch-basins and fire hydrants.

West Burnside Street is one of Portland's principal thoroughfares, its western end connecting with Barnes Road, an important highway used by traffic entering the city from the west. Because of a large ridge that has prevented the city from growing in that direction, the west city limit of Portland is close to the business section, so that West Burnside Street intersects the commercial section for most of its length.

The project, started May 6, 1940, has widened a little more than half a mile of the street at its Barnes Road end and relieved the congestion greatly, providing an incentive and example that will make possible subsequent improvement of the street along its entire length. The work was completed September 13, 1940, by WPA labor, at a total cost, including the city's sponsor contribution, of $42,000.

The width of the street was increased from 36 to 48 feet for a distance of 2,927 feet, 1.8 acres of land was cleared, 20,000 square feet of old sidewalk was replaced with 16,135 square feet of new concrete walk 4 inches thick, and 3,300 feet of old curb was replaced with 3,625 feet of new concrete curb. For drainage, 100 feet of 8-inch sewer pipe was installed, 12 catch-basins were replaced, and 752 cubic yards of retaining wall were built. The work involved 2,618 cubic yards of common excavation, 1,510 cubic yards of structural excavation, 1,546 cubic yards of loose rock excavation, and 100 cubic yards of trench excavation.

An A-C Model WM tractor with Hough loader and a bulldozer blade owned by the city of Torrance, Calif., to clear silt from a main highway following a flood. It had just completed a 1-mile fill raising the grade of a road 2 feet

Street Paving Engineers Meet at New Orleans October 19-22, 1941 American Public Works Assn.

POMONA IS KING IN NORTH DAKOTA

IN North Dakota, Pomona is King of all pumps, furnishing water to more than 100,000 of the 640,000 persons living in that State. A great number of municipalities in North Dakota are providing assured clean water at low cost by using, to advantage, the features available in the Pomona Water Lubricated Deep Well Turbine Pump.

The rugged strength, open line shaft construction, accessible packing box, adjustable impellers and stream-lined flow of the Pomona Pump assures long trouble-free and sustained low cost operation. The elimination of foreign substances for lubrication insures water as clean as nature can produce.

The illustrations above show how Pomona dominates the Municipal field in North Dakota and an installation in Hebron, North Dakota, that has been operated both by gas and by electricity.

POMONA
Water-Lubricated
PUMPS

POMONA PUMP CO., 120 Broadway, New York City. Plants at 4301 So. Spring Ave., St. Louis, Mo. and 206 Commercial St., Pomona, California.

Sewage Treatment

An attractive sewage-treatment plant, comprising three concrete buildings and a tank, built in 1939 at Wayzata, Minn., at a cost of $83,442 by Barrett-Record Co., of Minneapolis, Minn., contractors. Druar and Milinowski, St. Paul, Minn., consulting engineers

Sewage Treatment in New Jersey

ACCORDING TO A PAPER, "Twenty-Five Years of Sanitary Progress," presented by Clyde Potts, President, Department of Health of the State of New Jersey, at the twenty-fifth annual meeting of the New Jersey Sewage Works Association, in 1890 there was no municipal sewage-treatment plant in the state of New Jersey; in 1910, less than 10 per cent of the total population of the state was provided with sewage-treatment processes; in 1930, over 48 per cent of the total population of the state had sewage-treatment works; and in 1938, the per cent of total population provided with treatment works was over 66.

STATUS OF SEWAGE DISPOSAL IN THE STATE OF NEW JERSEY

Year	Total Population	Population Served with Sewage Treatment
	(U. S. Census)	
1890	1,444,900	0
1900	1,883,700	135,600
1910	2,537,000	230,000
1920	3,155,000	460,000
1930	4,041,334	1,955,000
	(Estimated)	
1935	4,550,000	2,150,000
1936	4,680,000	2,300,000
1937	4,780,000	3,035,000
1938	4,875,000	3,240,000

Separate Sewers and Treatment, at Paris, Ky.

PARIS, KY., was established in 1789, and since that time short lengths of sewers have been laid to care for dire needs but without regard to any future plan. All were of the combined storm and sanitary sewer type, emptying directly into Stoner and Houston Creeks, which converge within the city limits. The residents ran private sewer lines directly into the creeks, increasing the already serious pollution. When the menace to public health and property created by the existing sewers and lack of treatment became recognized, Howard K. Bell, Consulting Engineers, of Lexington, Ky., were employed to make a study and recommendations.

In 1936, application was made for WPA assistance, and work has been in progress on sewers almost continuously since that date. In 1938, the city filed application for a PWA 45 per cent grant for the construction of a sewage-treatment plant. The allotment was granted and construction began in the latter part of 1938, and the disposal plant was placed in operation in the spring of 1940. The total cost of modernizing both the storm and the sanitary sewers has been approximately $127,000.

The treatment plant has a capacity of 720,000 gallons per day, or 500 gallons per minute, and is intended to serve a population of 8,000 producing 144 gallons per capita daily. The plant has plain settling with pre- and post-chlorination and chemical precipitation, with secondary sludge return to the raw sewage. The sludge is digested in separate digestion tanks, and the sludge gas is used to furnish heat for the digester coils.

Two 90-foot diameter sprinkling filters, ahead of secondary sedimentation, are used to reduce the B.O.D. and to remove color. The treatment plant cost $79,000.

Modern Storm Sewer for Terre Haute, Ind.

A NEW $1,000,000 STORM WATER DRAINAGE SYSTEM, tunneled through sandy soil in the Wabash River valley, 40 feet below street level, is now under way in Terre Haute. There was a lack of local skilled relief labor with tunneling experience at the beginning of the project, but the Board of Public Works and Safety, in conjunction with the Engineering Department, ably assisted by Tim O'Leary, the superintendent of construction, overcame the difficulty by training carefully picked men, 36 at a time, in the work. At first, slow progress was made, but as the groups gained experience, tunneling operations were speeded up.

Shafts have been dug at intervals of two to three blocks just off the cross-streets. Working two shafts at a time, the crews tunnel toward each other. The tunnel is protected as excavation progresses by steel liner plates bolted around the 10-foot diameter walls. These liner plates form the outside forms for the sewer and later are lined with bricks to a thickness of about 12 inches. Great care has been taken to prevent cave-ins by packing the timbering with hay and boards until the liner plates are placed.

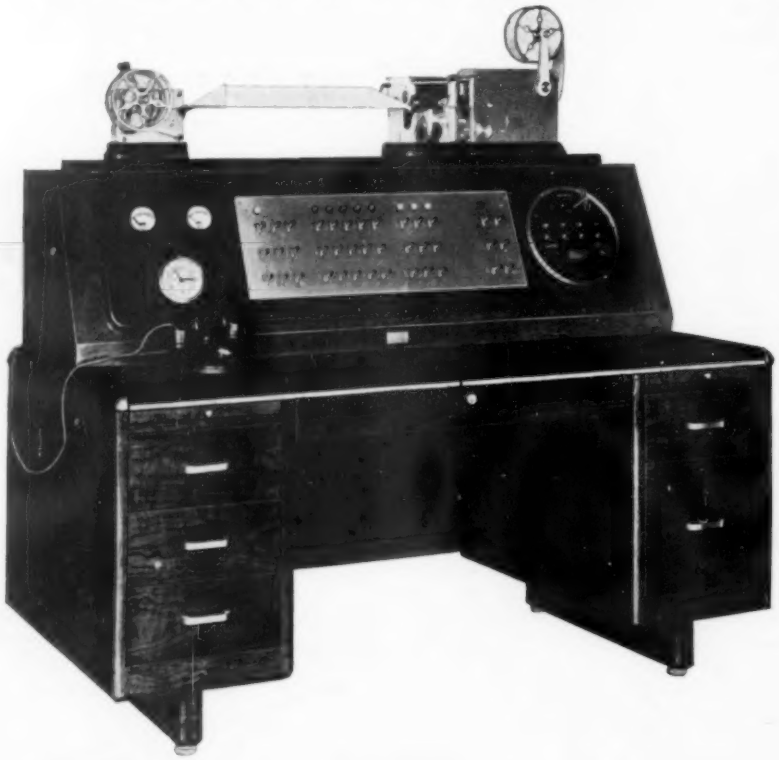
This 0.06-mgd sewage-treatment plant at Fairmont, Nebr., has a Dorr Clarigester for primary sedimentation and separate sludge digestion. Treatment is completed by a trickling filter and a final settling tank

THE GAMEWELL POLICE SIGNALING SYSTEM

A Major Defense Against Crime and Fire

The system includes the telegraphic code signaling, telephone, and recall features, all basic elements in police communications and contributes to public safety by ensuring an adequate patrol of the policed area and fire district. And, by providing for the swift and convenient transmission of emergency signals in cases of accident, riot, or serious crime, protects both the citizens and the police. Traffic police and other officers on fixed posts are enabled to promptly report accidents and other emergencies without leaving their posts. The recall feature enables the central station to call the patrolmen individually or collectively or to transmit to them instructions in secret police code.

A recognized factor in fire protection, the system also lends itself readily to the extension of police protection and supervision to industrial establishments, banks, hotels, and other special hazards. Citizens are also enabled to quickly secure police assistance.



A MUNICIPAL UTILITY

Invaluable as a defense against fire and crime the system is a municipal utility of exceptional merit, providing a readily accessible telephone service for all municipal employees such as maintenance men of the various departments as well as for private watchmen, mercantile police, and special officers outside of the police department.

Type CX Police Operating Desk as recently installed in Pittsfield, Massachusetts. The automatic recording outfit with time and date stamp is mounted on top of the cabinet and displays the recorded signals in full view of the operator. The desk and cabinet are of art metal. The manual transmitter at the right of the operating panel provides for a multiplicity of recall signals in code to the patrol force and for the transmission of emergency signals to the garage, hospital, and fire department. Gamewell central station equipments have been redesigned, simplified, and all operating parts increased in strength and efficiency.

Police Patrol Box—Exemplar Type

Equipped with three calls — Report, Emergency, and Telephone. The telephone service may be made to connect through the police central station with all police bureaus, officials, and other municipal departments. Multi-call boxes capable of transmitting from four to seven code signals are also available.

Police Recall Signal

The signal light is contained within a red Fresnel lens supported by a cast aluminum body. The dark shade contributes to effective signaling both by night and by day.

Write for Catalog

THE GAMEWELL COMPANY

NEWTON UPPER FALLS, MASS.

When you write for that catalog, kindly mention THE AMERICAN CITY.

Public Safety

Don't Buck the Army on Streets and Roads

Motorists who later on may meet up with army traffic on the streets and highways need only remember that in these days and nights the U. S. Army has the right-of-way. The Collision Prevention Bureau of the Traffic Division of the Los Angeles Police Department has set up some simple rules of civilian motoring etiquette:

1. Never try to pass on hills and curves.

2. Where the convoy is closed up, as in cities, it may go through stop signs and lights, when escorted by the police. No Breaking Through!!

3. When encountering a convoy in the city, traveling in your direction, pull over to the side and wait, just as for ambulances and police emergency vehicles.

4. When these convoys are escorted by police either within or outside the city limits, approach intersections with great caution; be sure no more vehicles are coming before passing through the intersection, even though the green light is in your favor.

Bomb Buster

A Bomb Buster or Bomb Taxi consisting of a reinforced steel tank mounted on a ½-ton trailer has been created by Superintendent Charles A. Wheeler of the Bridgeport, Conn., Police Department. The fatal bomb explosion at the British Pavilion at the New York World's Fair last summer inspired the device illustrated here. The floor of the trailer frame consists of a ¼-inch steel plate to which is welded an old steam boiler with top removed and the bottom covered with five bags of sand. The wheels are fitted with General 4-ply tires. Three sticks of 40 per cent dynamite have been exploded inside the tank without damage. Still greater capacity will be afforded by winding steel cable around the tank inside and out, spot-welded every foot.

The trailer can be hitched to the emergency truck, which carries four 500-watt G. E. floodlights, a 2,000-watt Homelite generator, a 500-watt underwater Homelite lamp, and 1,000 feet of electric conductor on a reel. Other equipment includes street-closed signs, two stretchers, H-H inhalators, twelve pairs of hip boots and of arctics, wood and gasoline stoves, and 10-quart coffee pots. The emergency squad has available a rowboat on trailer, 50 stretchers, and 50 emergency cots. Superintendent Wheeler plans to purchase for emergency service at police headquarters a 10-kw alternating current Homelite electric generator.

Battle Creek's New Emergency Truck

The Rescue Car Shown Above is built to carry six men with full emergency equipment as follows: one 300-gallon Barton pump; one 150-gallon booster tank with two booster-tank leads with fog nozzles; one 10-foot folding aluminum ladder for inside work; two 10-foot lengths of suction hose; six fire pails; two soda-and-acid extinguishers; two Foamite extinguishers, two Pyrene extinguishers, and two Indian fire pumps, as well as a full equipment of fire-fighting tools including a complete set of tools for handling sprinkler systems. Other rescue items are: a double fresh-air smoke-mask equipment for two men; one inhalator equipped to handle two victims at a time; two fire-resisting blankets; and one stretcher suspended on springs from roof of car. The car is equipped with two-way radio and has two tow hooks and two tow ropes for removing cars from in front of burning buildings.

This car is a special conversion job, the body being converted by the Dodge Division of the Chrysler Corporation at its own plant. Windows were built in the panel and an extra door added on the right side, allowing six men to enter and leave freely.

S. P. Weeks,
Chief, Fire Department, Battle Creek, Mich.

On Bridgeport's Bomb Buster Are Superintendent of Police Charles A. Wheeler, Lieutenant George A. Washburn, and Hon. Jasper McLevy, Mayor

You save time and money all around by using L-M Fibre Conduit on your underground installations.

L-M Fibre Conduit is light in weight. It is easy to carry and saves labor in hauling and handling.

L-M Fibre Conduit is high in wall strength and keeps breakage expense and delays at minimum.

L-M Fibre Conduit is uniform in length, bore, wall thickness and joints. You can lay it faster without loss of time for re-alignment.

L-M Fibre Conduit is watertight at the joints and prevents delays in laying from wet concrete seepage.

L-M Fibre Conduit is perfectly smooth on the inside. The cable can be drawn rapidly without injury to the cable sheathing.

L-M Fibre Conduit is neutral to soil acids and alkalies, has high resistance to moisture and water, gives extra years of dependable underground protection.

On your next underground installation specify and use L-M Fibre Conduit and save all around.

LM **LINE MATERIAL COMPANY**

Vol. LVI, No. 5 The American City May, 1941

Must Urban Redevelopment Wait on Bombing?

By Frederic A. Delano
Chairman, National Resources Planning Board

In effect, cities are exploding into space.

In Europe, 1,000-pound demolition bombs and the vicious flames of hundreds of incendiaries have transformed large urban areas into ruins.

Our own cities, as yet not threatened by devastation from above, are disintegrating in a different way—slowly, peacefully, but surely. The crush of thousands of people in tiny areas and the tightening snarl of transportation facilities which are the life-blood of our cities, have created an irresistible momentum to escape. Modern technology has spawned widespread urbanism, but it has also made possible the rapid decentralization now taking place. Large segments of our people remain anchored in rapidly spreading areas of urban chaos—but not forever. Fundamental desire for light, air and spaciousness has been largely forgotten in today's labyrinth of detail, but it is the growing root of the peaceful explosion of our cities toward their peripheries. Only the most stringent controls can hope to halt this movement.

There are those who maintain that the day of the larger cities has passed, that both their foundation and *raison-d'etre* have ceased to exist. The decentralization taking place today tends to support this conclusion. If such is the case, redevelopment of urban areas should be shaped accordingly. Greater concentrations, such as that now taking place in Washington, should be discouraged and dispersal encouraged and guided to form better communities—but gradually, to prevent complete breakdown.

In medieval days, the city was principally a defensive device. Within towering walls, princes and paupers enjoyed comparative military security. Orville and Wilbur Wright wrote the last chapter to the reversal of such urban security. Modern all-out warfare and its new winged brain-child feed on urban destruction, and no protection from night bombardment is in sight. And our great concentrations of population and production, the exposed hearts of the nation, lie vulnerable.

It is at least fortunate that urban protection and urban redevelopment both call for decentralization and lesser density. Urban redevelopment we know we must have. To what extent the protective advantages of smaller more-open communities must be considered will depend on world events and the balanced thought of our best military minds.

In any event, the current importance of the question of the maximum optimum size of cities demands attention.

Rebuilding Job Promises Vast Boom in Britain

Rehabilitation of Wrecked Areas After the War May Employ All of Fighters

By Carey Longmire

From the Herald Tribune Bureau

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LONDON, April 5.—Strange as it may seem, Great Britain after this war may find herself in the greatest boom of her history.

The reason is the peace-time necessity for rebuilding. Millions of dollars' worth of homes, business properties and public buildings torn to the ground by German bombs, must be rebuilt. There even may be the possibility, according to some British thinkers, that the men released from the army, navy and air force may not be sufficient to meet the demands for labor as well as for architects, engineers and city planners.

Some Britons hope to see after the war a minimum of flimsy rebuilding. They hope that not too many English property owners will rebuild the same old eighteenth and nineteenth century-style buildings at exactly the same places as before, paying no attention to the needs of a modern city or regional planning.

"The fire raid in the City of London last December," one Englishman said, "accomplished one good thing. It wiped out a rabbit warren of ramshackle buildings in narrow, little one-way streets which should have been torn down years ago. What is needed now is the public authority to determine how the rebuilding of that district is to take place.

Public Interest Paramount

"Rebuilding must be done in the best public interest after the war, no matter what the dimensions of a shopkeepers' lot may have been before. After the Great Fire of 1666 everybody insisted on having his house or his shop given exactly the same location as before. That can't happen again."

Lord Reith's Ministry of Works and Buildings already is considering the tremendous problem of Britain's post-war reconstruction. To Birmingham, to Coventry and to Bristol—among the worst-bombed areas in Britain—Lord Reith is sending his emissaries. Decentralization of the present congested industrial areas and striking a balance between factory and agricultural districts—both have their part in the present discussions.

Nothing has progressed beyond

REPRODUCED, BY SPECIAL PERMISSION, FROM THE NEW YORK HERALD TRIBUNE OF APRIL 6, 1941

England expects prosperity from post-war rehabilitation of wrecked areas. Must it require destruction from without to stimulate American cities into large-scale demolition and redevelopment of their slums and blighted districts?

New Primary Treatment Plant Serves Town of Amherst, Mass.

Million-Gallon Sewage Works Started One Year Ago

By THEODORE REED KENDALL
Engineering Editor, THE AMERICAN CITY

THE new primary sewage-treatment plant of the town of Amherst serves the community, the Massachusetts State College and Amherst College, a total population of about 8,000 persons. The sewage flow is about 350,000 gallons in summer, 700,000 in winter, and 850,000 in times of storm because of infiltration of ground water into the old sanitary sewers.

Stanley Street Pumping Station

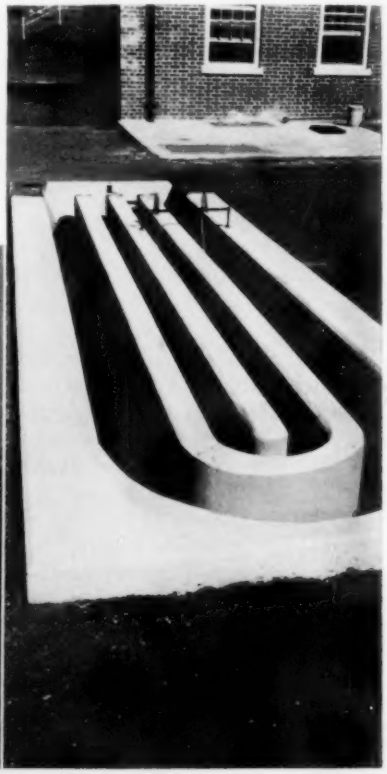
Owing to the topography of the town, the sewage from the east slope, formerly discharged untreated into Fort River, is collected at a pumping station on Stanley Street and discharged over the hill into the west slope sewers, flowing thence by gravity to the treatment plant. Sewage entering this station flows through a 15-inch Chicago comminutor to a wet well from which two automatically controlled 200 gpm Fairbanks-Morse pumps and 15 hp motors lift it 90 feet over the ridge.

Flow to Plant Controlled

The treatment works are located on the original long 15- and 18-inch vitrified tile sewer which formerly discharged raw sewage into the Connecticut River. The plant is cut into this line at a diversion manhole so constructed that flows in excess of 1 mgd will flow direct to the river untreated. The flow into the plant is measured by a Builders Iron Foundry 12 x 5-inch venturi meter which automatically operates an adjustable rate controller keeping the flow to the plant within the design capacity.

Removal of Solids

From the meter the sewage flows to two channels forming grit chambers where the velocity is controlled at 1 foot per second. The operator has developed a simple "gadget" flow meter which, at a glance, tells



Left, the Stanley Street pumping station; below, Nelson Damon, plant operator, with venturi recording and indicating mechanism in corner; at right, the grit-collecting channels

him if the flow is approximately at the proper rate. It consists of a ½-inch round dowel at one end of which is a copper plate which is immersed in the flow. Calibration has made it possible to indicate on a gage at the top of the tank the point at which the copper plate will ride in the flow at a 1-foot-per-second rate.

From the grit chambers, which are 6- and 12-inch channels, the sewage flows through a continuously operated 15-inch Chicago comminutor to the primary settling tanks. For emergency service a by-pass through a bar screen with 1-inch openings is provided adjacent to the comminutor.

There are two primary settling tanks 15 x 46 feet in area and of 8 feet average depth, giving a two-hour detention period at the design flow. Sewage enters the tanks back of a wood plank baffle underneath a heavy concrete slab. Flowing downward and beneath the baffle, some of the sludge arches across, between the wall of the tank and the plank baffle, requiring reaching-in from the edge of the concrete slab with a pole to break it up and permit it to settle in the tank for removal by the Link-Belt sludge collectors. Flows of up to 0.75 mgd are handled by one tank satisfactorily. Each settling tank is equipped with two ACF plug-valves for removal of the sludge from the sludge collection hoppers. These valves are opened by pipe arms on stands at the end of the tanks.

Effluent Pumps

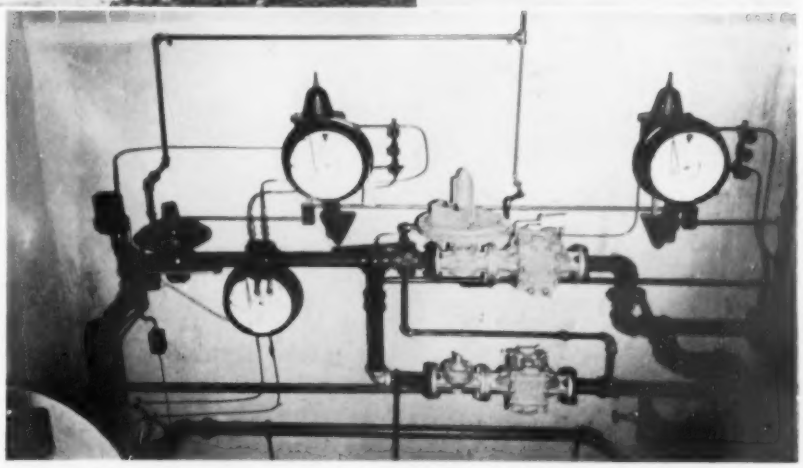
In the two-level basement of the administration building are located the two Chicago 700-gpm centrifugal effluent pumps driven by 3-hp Westinghouse motors. The wet well to which the effluent from the settling tanks flows is located just outside the building, and the operation of the pumps is controlled by the elevation of the effluent in this wet well through a Westinghouse electric float control. Either of the two pumps can be made the lead pump by a switch on the control board.

The settled sewage is not chlorinated but is pumped directly to the 15-inch cast iron and vitrified-tile outfall line which extends 2½ miles to the Connecticut River.

Sludge Disposal

When the plug-valves in the sludge collection hopper of the settling tanks are opened, the sludge flows direct to the suction of a 10-inch Carter-Simplex plunger sludge pump, with an adjustable stroke which delivers it to the digesters. This pump is located on the upper basement floor of the administration building with valves and piping so that it may be used to re-

The comminutor with hand-cleaned by-pass screen, and the settling tanks in the background. At right, the top of one of the digesters with its floating cover. Below, the flame traps, pressure-control valves, and recording meters for gas from the digesters and to the boilers and to waste



circulate sludge in the digesters or transfer the sludge from one digester to the other, or to discharge it to the sludge drying beds. A novel sludge sampler has been devised by the operator for taking a sample from the discharge line of the sludge pump and returning it to the suction side by a loop of pipe which short-circuits the pump. A check-valve and a quick-acting valve on the small cylindrical container, where the sample is discharged, permits drawing the excess immediately back into the sludge line without creating any nuisance.

There are two digesters 25 feet in diameter, 20-foot side depth, each with a 4-foot hopper bottom, equipped with PFT floating covers for the collection of sludge gas. Between the two digesters is a control room containing two sludge sampling basins with piping and valves so that samples may be secured at six elevations from each tank. The two digestion tanks are heated by pipe coils through which hot water is pumped from the lower basement of the administration building. A Foxboro flow recorder is mounted on the wall of the control room to show the amount of hot water delivered to the coils in the two tanks. In addition, two Foxboro temperature gages are installed on the walls to show the temperature of the water entering the tanks and leaving them. The temperature of the tanks is maintained at about 80 degrees F.

All pipe connections and operating valves are located beneath a gallery of subway-type grating in the control room. The pipe connections entering this gallery are all stubs set in the walls, and then the connections are made up with Dresser couplings to permit adjustment in line and grade. The operating valves are all ACF plug-valves making a compact center for the control of the flow of sludge. In this same gallery is a Goulds sump pump driven by a General Electric motor. All sludge gas lines are painted red, and sludge lines in green for ready identification.

When the digesters were being started, daily pumping was alternated between the two. The pH of the sludge was down to 5.4 and 5.3 at the start, but this was corrected with lime and stabilized at 7.6 well before November, 1940, when the first digested sludge was drawn to the drying beds. The digestion tanks are designed for a capacity of 2.3 cubic feet per capita of population.

Both covered and open sludge drying beds are provided. There are six sections 20 x 65 feet, giving a total drying area of 7,800 square feet. Two of the beds are covered with Metropolitan Greenhouse Manufacturing Corporation glass covers to permit drying in wet weather and during the winter, as required. The sand beds are under-drained with a connection to the plant effluent pump well.

The administration building, in which the control of the operations of the plant is centered, is a simple but attractive brick structure with the office and lavatory on the first floor, with stairs leading down to the two-level basement, where the sludge pump, gas- and oil-fired boilers and electric-control panel are located.

Two Orr & Sembower boilers, one equipped with a Silent Glow oil burner and the other for burning sludge gas, are located on the upper basement level. Hot-water lines to the digesters are painted green, and the domestic supply is brass pipe with a special steam line for heating the administration building. Inasmuch as the boiler equipped for burning sludge gas is used first, for purposes of economy, a change in piping from the original design was necessary, since each time steam was generated in the boiler, water was forced from the operating boiler over to the stand-by boiler. This has been corrected by a complete circuit of piping so that the water will remain at the same elevation in both boilers at all times.

The incoming sludge-gas line from the digesters passes through a Varec flame trap and then through a Varec pressure-reducing valve which delivers gas at a pressure of 3 inches of water to the boiler. Gas not consumed under the boiler passes through another pressure-control valve and flame trap, going to the waste-gas burner, which is a standpipe located in the lawn at some distance from the building. To measure the gas used under the boiler, and also the amount of gas wasted, two Foxboro recording meters are installed, and there is also a Foxboro dual recording gage on the outgoing and return water-circulating lines to the digester coils. The water to these coils is circulated by a Westinghouse pump driven by a ¼-hp Master electric motor.

For heating the two basement levels, a Beacon unit heater is located at each side of the ground floor gallery, blowing heated air to each side of the basement. Concealed radiators are installed in the office, lavatory and hallway on the ground floor of the administration building.

The new primary sewage-treatment plant at Amherst, which was placed in operation on May 1, 1940, was designed by Frank A. Barbour, consulting engineer, Boston, Mass., and is operated under the direction of S. P. Puffer, Superintendent of Streets and Sewers of the town of Amherst, Mass., by Nelson A. Damon as Chief Operator.

A Big City Bows to a Small Neighbor

IMMEDIATELY following release to the newspapers of the Annual Report of the City of East Cleveland, Ohio (1940 population 39,395), the *Cleveland Plain Dealer*, a leading newspaper of Ohio's metropolis (population 878,385), published on April 12, the following editorial:

"The outstanding success achieved by East Cleveland's city government is revealed again by its annual report.

"For 13 consecutive years the municipality has reduced its bonded debt, cutting it from $3,000,000 to $676,000. For 23 years our little neighbor has lived within her income. In all that time she has discounted bills, has paid all salaries and other obligations on time. The per capita fire loss in 1940 was 67 cents as compared with a national average of $2.10. Traffic safety was a city cause last year and not a fatal accident occurred.

"The economy and efficiency in striking evidence in all activities of the government are the products of a non-political manager plan. The commissioners are elected on a non-partisan ballot. Thus party rivalry does not exist, so there is no need of expensive spoils for party rewards.

"East Cleveland was settled as early as Cleveland. The first church was built in 1807, and John Shaw built his school in 1835, but the village was not carved out of Euclid Township until 1895.

"The present form of government was adopted in 1915, and its accomplishments are due in large measure to one man, Manager Charles A. Carran, who served as Finance Director from 1918 to 1923, then was elevated to his present position."

Houston's Imposing City Hall

THE central motif on the main axis of Houston's civic center will be the City Hall, an exterior view of which is shown on the front cover of this issue. The building has been planned and designed to house the administrative offices and departments of the city and is built in modern classic style for both the exterior and the main features of the interior.

The exterior is in Texas shell limestone, the façades ornamented with carved panels at the various offset levels and over the entrances. The panels at the first-floor offset symbolize agriculture, those at the fourth-floor level, industry; and those in the tower, the departments of government.

The block adjacent on the east has been developed as a setting for the building, and the street intersecting the building site and Martha Herman Square has been closed and incorporated in the landscape development, which includes a reflecting pool 50 feet wide and 180 feet long, supplied from a fountain head and concealed

circulating pumps and regulators. Planting of trees and shrubbery in the area will be carried around the entire building.

The main lobby of the building is on the east-and-west axis and is entered from the terraces flanking the building on the east and west elevations. The full height of the walls is treated with marble, and the ceiling is decorated in symbolical groups representing agriculture, municipal activities, education and culture, with a plaster relief of the Western Hemisphere, all blended in color and in the character of the modern classic treatment and the materials used. The pattern of the marble floor of the lobby radiates from a circular metal plaque in a combination of nickel silver and bronze metal with low relief symbolical figures. Doors, trim, and detail of ornament in the lobby are in nickel silver and bronze. The monumental stairway, in marble with aluminum railing, leads from the basement to the third floor, with marble walls.

Elevator lobbies and corridors throughout the building have marble base, walls and wainscoting. All floors are served by two high-speed automatic self-leveling elevators and one combination freight and passenger elevator. An automatic elevator serves the private use of the Mayor to and from his office and the Council floor.

The entire building is completely air-conditioned for year-round use. The floors are occupied as follows:

First floor—Water Department, and Tax Department, having the greatest amount of traffic, and easily accessible from the main body and separate exterior entrances.

Second—Council Chamber, extending through the third floor: Departments of Public Service, City Secretary, Civil Service, and Legal Library, adjacent to and accessible to the Council Chamber.

Third—Mayor's suite, with reception room and office and private office, and office of staff of secretaries; City Attorney and assistants.

Fourth—Department of Public Works, including Building Permit Department, Street and Bridge Department, Engineering Office and drafting room.

Fifth—Department of Recreation; Purchasing Agent.

Sixth—City Controller's offices and departments.

Seventh—Engineering section of Water Department, with pneumatic tube system connected to the various stations on the first floor.

Eighth—Main reception room of City Commissioners, with their private offices, conference rooms, and secretaries' offices.

Ninth—Assembly room for department meetings, civil service examinations, and Public Works Administration.

Tenth—Department of Public Health.

Eleventh—Storage space for departments; designed for heavy loads.

Basement—Boiler machine room, coffee shop, dining rooms, offices of building engineer and building superintendent, storage areas for the Tax Department and others.

Joseph Finger, Inc., Houston, Texas, Architects

Top—Council Chamber, Houston City Hall
Middle—The Tax Department
Bottom—The Café in the City Hall

The construction and setting of the Santa Cruz City Hall suit its location

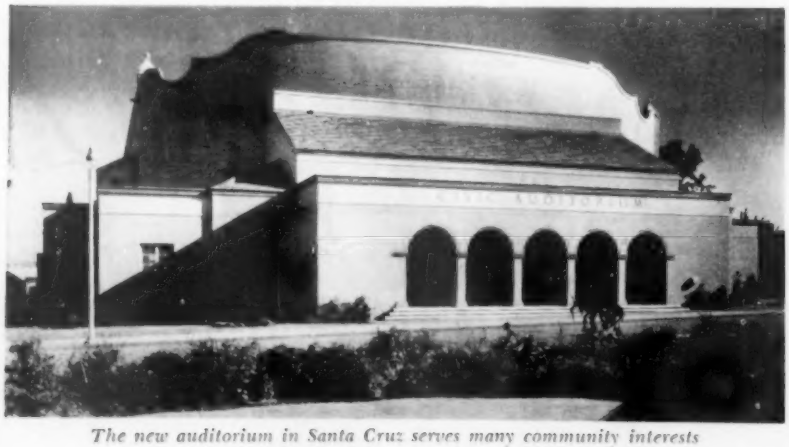
Civic Center and Corporation Yard Completed in Three Years

By H. R. JUDAH
Auditorium Manager, Santa Cruz, Calif.

SANTA CRUZ is a city of about 17,000 population, located midway between the northern and southern boundaries of California, on the northern shore of Monterey Bay. Credited largely to the forward-looking policy of the administration, led by its progressive Mayor, C. D. Hinkle, Santa Cruz has completed since 1938, with the aid of PWA, at a cost of nearly a half-million dollars, a new city hall, a combined civic auditorium and fire house, and a corporation yard.

City Hall

The city hall, auditorium, fire house, and a library dedicated in 1903, form a civic center at the intersection of Church Street and Center Street. The city hall is a building of taste and beauty. Completed in November, 1938, it cost $136,714. Of early California style of architecture, it is built in U shape around three sides of a landscaped patio. The material is Monterey stone, with concrete, and the roof is tile. The commodious and comfortable council chamber runs north and south across the back of the building, connecting the two wings, which house on one side the offices of the mayor, commissioner of finance, street and building departments, and, on the other side, the police court, police department, water department, and city jail. All rooms are finished in white and indirectly lighted. Tiled brick walks, a blue-and-white tiled fountain, and shrubs and vivid flowers kept constantly fresh and trim by a master gardener, make the patio and grounds surrounding the wings, inviting and attractive.



The new auditorium in Santa Cruz serves many community interests

Auditorium—Fire House

Across Church Street from the city hall is the new auditorium, completed last March at a cost of $276,852, of which $121,295 was contributed by PWA, and the rest by a bond issue voted by Santa Cruz citizens. It is built of iron and concrete, in the Mission style of architecture, with modern safety features. The theater, in the center of the building, is in the form of a stadium, with permanent terraced rows of seats surrounding the main floor, and with no overhanging balconies. The floor, which measures 96 by 64 feet, can be used for dancing, automobile shows, basketball, and festivals of all kinds, or can be provided with movable seats, bringing the seating capacity of the whole theater to more than 2,000. The stage, which has a width of 45 feet between proscenium arches, and a working depth of 35 feet, is adequate for all concert and show attractions, even including large road shows and opera. Opening off the corridors surrounding the central theater, are twelve rooms which are

New Central Fire Station in Santa Cruz, and the Well-Equipped Corporation Yard

used for committee meetings and other purposes.

The auditorium has already housed eighty major events, including boxing, wrestling, basketball, dances, vaudeville shows, concerts, and singing festivals. It has been used for nine conventions. Several times it has been filled to overflowing. Among those who have used the stage are Tito Schipa, the tenor, Alec Templeton, the blind pianist, the northern California Symphony Orchestra under the leadership of Nathan Abas, and the annual jinx show of the California State Elks Association. Several community affairs have taken place in the auditorium, including the first annual singing Christmas festival.

By ordinance, the auditorium is under the control of the city council, with the direct management handled by the auditorium manager and the mayor. The building is financed by taxation to the extent of the cost of operation and maintenance, less the income produced. The average annual operating and maintenance cost for the first few years, without allowance for depreciation, will be approximately $9,500. There is every indication that the income from rental of all types will be close to $5,000 during the second year; and within four years from the date of its opening the auditorium should come very close to paying for its operation and maintenance from income. The staff consists of a manager, a building superintendent, and a secretary who gives a third of her time to the Santa Cruz Chamber of Commerce, a tenant in the building.

Adjoining the auditorium on the south is the new central fire-department station of the city. Modern throughout, it has runways for three fire trucks, and adequate space in the rear for the construction of a fire tower and other practice equipment. The second floor houses the living and club rooms of the firemen.

Architects for the city hall and combined auditorium and fire house were C. J. Ryland of Monterey and Mark Daniels of San Francisco. The Miller Construction Co., of San Francisco, received the construction contract.

Corporation Yard

The new corporation yard is located at the corner of River and Quintana Streets, about six blocks north of the civic center toward the industrial section of the city. Built at a cost of $73,000, with the aid of WPA labor, it was completed in early December of last year. This new investment provides the city for the first time with a modern and well-organized machinery-repair shop and other facilities for handling the work of the various city departments — particularly that of the departments of street and water. The yard contains adequate space for parking all city trucks, and one building for the storage of the supplies of the city departments.

City officials who have been mainly responsible for these recent improvements in Santa Cruz are, besides the Mayor, Fred R. Howe, Commissioner of Finance; Frank K. Roberts, Commissioner of Public Health and Safety; Amos Roff, Commissioner of Public Works; Mabry S. Bibbins, Commissioner of Streets and Parks; and Roy W. Fowler, City Engineer and Purchasing Agent. Original investigation on the auditorium project was carried out by a Chamber of Commerce committee headed by Earl Harris.

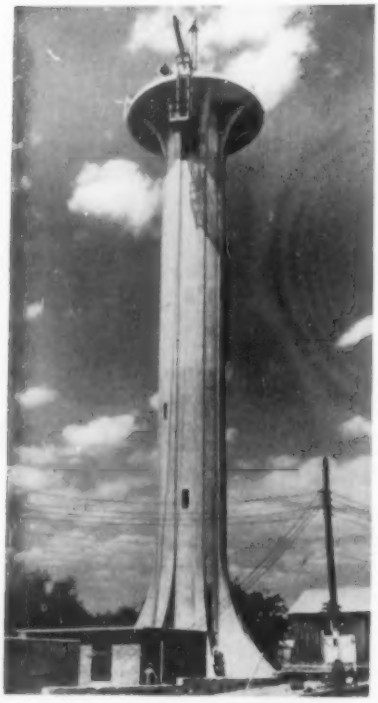
City Planning by the Democratic Process

From the 1940 Annual Report of the City Planning Commission of the City of New York:

"The great city, planned for living as well as for working, the city which must depend upon industry and business for its existence, and yet provide the facilities and amenities for wholesome, normal living, remains unbuilt. New York might be the first great city of this kind. A Master Plan for such a city must recognize its manifold and varied functions, giving full consideration to all basic economic needs, but without losing sight of the primary objective of providing, in the words of the Charter, for the 'comfort, convenience, health and welfare of its population.' Nor can it be forgot that the planned cities of which we have knowledge, including our own national capital, were created by fiat. New York must be replanned and rebuilt by other methods. Even the planning can only be ordered by the people themselves. In commissioning the creation of a Master Plan of the City, the Charter provides that it must be subjected to public hearings before adoption and modification. This makes the development of the Master Plan essentially a collaboration between the Commission and the public, free from all other interests and influences. Actual sanction reposes in the understanding and acceptance of the Master Plan by the citizens of New York. They must share with the Commission responsibility for planning the city of the future, which can be as broad and effective as the people care to make it."

Concrete Water Tower Part of New Water System

Roma, Texas, Shifts from Water-Cart to Modern Purification System



Roma, Texas, has advanced from the burro-drawn water cart to a complete modern water-treatment plant with a monumental concrete water tower, and compact settling basins and chemical treatment units

WITH the construction of a reinforced concrete water tower of novel design, Roma has solved in an interesting fashion the old problem of making such a structure an attractive monument to a community. And, as a public undertaking which meets a definite community need in a distinctive manner, the project has attracted considerable attention. The tower is a part of a complete water system, including intake, purification, and distribution facilities, which Roma has installed with the aid of the Work Projects Administration.

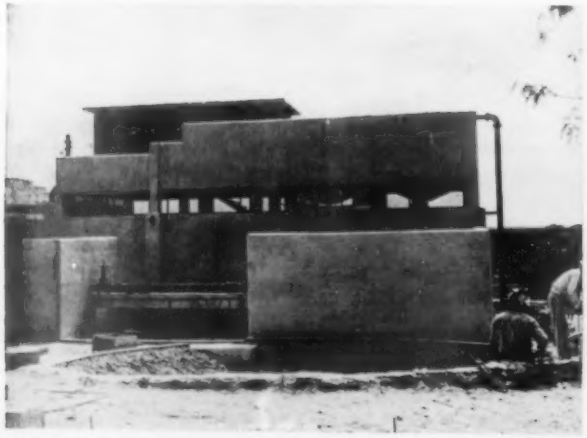
Prior to the completion of this system this southwestern town had no water-supply facilities of any kind, water being drawn by hand from the Rio Grande River. And so the new system, which is modern and complete in every detail, meets a long-existent need.

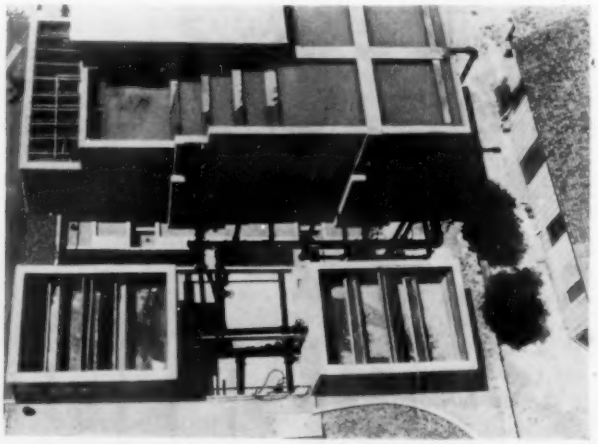
Construction

The unusual design and construction of the concrete shaft or pedestal upon which the 60,000-gallon storage tank rests is the outstanding feature of the plant. This tower is the first structure to be built from the designs of J. W. Beretta, Engineers, Inc. It is constructed of reinforced concrete throughout, is 100 feet from the base to the concrete platform upon which the storage tank rests, and has a diameter of 11 feet. The hollow cylindrical tower has a wall 10 inches thick. The use of external reinforcing ribs of concrete, which extend for the whole height of the pedestal and terminate in parabolic curves at the base and at the upper platform slab, not only provides additional strength but adds to the appearance of the structure as well.

A considerable portion of the construction work on the shaft was done from the inside of the tower. The forms for the concrete were held in place by special bolts so arranged that the bolts holding the top part of the forms for one pour could be utilized to hold the bot-

(*Continued on page 89*)





WPA PHOTOGRAPHS

For More Effective Urban Planning

Findings and Conclusions from an Important New Book, "The Planning Function in Urban Government"

By ROBERT A. WALKER

1. Failure to plan in the past has placed a tremendous burden of social and physical regeneration upon urban governments.

Unchallenged application of the principle of laissez faire in the building of our cities has created a number of critical problems based upon obsolescence of the physical plant, congestion, industrial dislocation, and poverty. Urban governments have been forced to assume an ever increasing responsibility for the welfare of their citizens, while municipal income has been threatened by decreasing property valuations and tax receipts. To meet their responsibilities, consequently, it is imperative that municipal officials plan their activities with the objective of eventually resolving the conditions from which their problems emanate. This means essentially that they must exercise intelligent foresight in dealing with the specific questions which arise from day to day, and in doing so they will need the best available assistance from persons who can devote their primary energies to study, thought and planning.

2. Planning has been widely accepted in principle in American cities.

The modern city planning movement has sought to counteract the unsightliness and intolerable living conditions accompanying the rapid industrialization of the past century. The ideals and energy of the public-spirited citizens, planning consultants, commission-members, and farsighted public officials who led and supported the city planning movement have made an invaluable contribution to the improvement of urban living and better municipal government. Their work has been the incentive for countless public improvements and has secured general recognition of the need for planning, as is shown by the thousand-odd official city planning commissions now in existence.

3. Urban planning agencies have in practice fallen far short of their potential usefulness.

Two factors have combined to limit severely the work of local planning agencies: (1) the planning commissions have been set up as independent unpaid boards at the periphery of the urban administrative structure, frequently for the sole purpose of producing a zoning ordinance or a "city plan" and (2) planning has been too narrowly restricted to elements of the physical pattern of the community. The first has caused many officials to look upon the planning commission as something outside the sphere of day-to-day administration, as a group of laymen whose job is finished when a plan or zoning ordinance has been presented. The second factor is a result of the standardization of plans and planning to include only the six elements of zoning, streets, parks, transit, transportation, and civic art. Of these, zoning has been the predominant concern of most city planning commissions. These considerations have meant lack of interest and of financial support from busy officials, who tend to look upon the planning agency as a zoning body or, at best, as an agency concerned with public works. Hence they ordinarily think it of little value in dealing with the social and financial problems which now occupy much of their attention.

4. The scope of urban planning activity has expanded sharply in some cities since 1930.

The past few years have seen an important extension of planning in some cities to include an interest in the social and economic as well as in the physical development of the community, notably through plans based upon real property inventories, housing surveys, and the tax-delinquency studies carried on with the aid of workers from relief rolls. The permanent influence of this work on the future program of the commissions cannot yet be determined, but it will no doubt be considerable. For the most part it represents a significant advance on the part of planning agencies into fields which they had not studied systematically prior to 1930 but which have become matters of greater public concern since the depths of the depression. It has been shown that acceptance of the view that planning should be a staff function attached to the executive office involves a potential extension of the concept to include all aspects of local government activity. The planning agency should take a truly comprehensive view of the future of the community and should aid directly in integrating the necessary planning work of all departments, including those concerned with public health, welfare, and finance. This does not, however, imply that land planning and public works planning should be abandoned. What is important is that plans for physical development should be closely related to plans and prospects for the industrial, social and financial future of the urban community.

5. The courts have adopted an increasingly liberal attitude toward the exercise of zoning as a part of comprehensive planning.

Recent decisions show a significant shift in judicial thinking with respect to zoning and planning. Whereas zoning was formerly upheld almost entirely on the basis of nuisance considerations, there has been a strong trend toward the view that comprehensive city planning is itself of such importance to municipal government as to warrant public control of private property under the police power. There is in the most advanced decisions a strong implication that cities might today extend the use of zoning with the approval of the courts, although as yet little has been done to take advantage of this change.

6. Intermittent contract planning cannot adequately meet modern planning problems.

The system of consultant planning which has characterized city planning in the past has not been effective in establishing planning on a continuing basis. Both civic groups and public officials have tended to regard the plan prepared in this manner as the end-product of the planning process. The fallacy in this point of view is apparent if it is recognized that planning is in the first instance the responsibility of the officials charged with formulating public policy. They are forced to plan their operations and activities from

month to month and from year to year. The function of the planning agency is to assist them in handling this aspect of their work. Planning in this sense is obviously a continuing function, and the planning agency cannot serve its purpose adequately if it confines its major efforts to intermittently contracting with an outside consultant to prepare a city-plan report. It was found that officials do not often refer to a consultant-made plan, and in a number of instances they were unaware of the existence of such a plan even though it was readily available. Another consequence of the dependence upon consultant services rather than upon an adequate permanent staff has been the general failure of planning agencies to coordinate and integrate the planning being done by various units of urban government. This is not to say that a general or master-plan is undesirable. On the contrary, such a plan is a useful device for the broad guidance of the planning agency, but it is best envisaged as providing the background for the agency's activities rather than as the goal to be achieved. Thus it can be developed over a period of time by a staff which will at the same time be available to study particular problems and make recommendations regarding them.

7. The independent, unpaid, citizen planning commission is not satisfactorily executing the planning function at the present time.

The great majority of city planning agencies are now inactive. Even in the larger cities many of the commissions confine their interest to zoning and public works. Planning technicians are pushing forward to a broader range of activities in some places, but with a few exceptions commission-members have not played an important part in recent developments. Planning commissioners are drawn primarily from business executives and from those professions closely identified with construction—realtors, architects, and engineers. The influence of zoning has also drawn a fairly high proportion of lawyers to the boards. Persons identified with labor, social welfare activities, education, etc., are rarely found. In general, commission-members have a limited social outlook and a wholly inadequate grasp of planning. Many of the original pioneers in the field have passed on, and later appointees frequently lack the basic interest and enthusiasm of those leaders.

On the basis of his observations the writer is of the opinion that the autonomy and the amateur character of the commissions militate against the best interest of planning in the larger cities today. The watchdog role which many of the commissions appear to have adopted in lieu of a spirit of cooperation has been a source of friction and antagonism to public officials, interfering with the whole-hearted acceptance of the planning function. At the same time, officials do not tend to value highly the advice of an unpaid, part-time board. This has meant simply that they do not seek the advice of the commissions on innumerable matters seriously affecting the future development of the community. The independent status of the commission has also thwarted the cultivation of easy informal channels of communication with important officials—a deficiency which is only rarely and partially compensated for by having officials serve as ex officio members upon the commission.

8. Planning is one of the staff functions and should be attached to the executive office.

The movement toward greater integration of administrative responsibility and authority in the hands of the chief executive has influenced all levels of government in recent years. This has meant that the urban executive has assumed a position of ever increasing importance in city government, whether he be mayor or city manager. As the one focal point of current business and departmental responsibility, the chief executive more than any other one official has the responsibility for taking an over-all view of urban government, for coordinating its various activities, and for planning an integrated future program. Consequently, the planning agency will be most likely to perform its function satisfactorily if it is made immediately responsible to the executive. It is, in fact, exercising the executive's obligation to investigate, think, and plan before he acts. The mutual confidence which this relationship presupposes has seldom been realized in the past, and the failure of many planning agencies to find an active role in urban government is undoubtedly due to the emphasis which has been placed upon guaranties of independence from political influence as distinguished from a more relevant emphasis upon usefulness and cooperation. Recognizing that urban politics has often been such as to justify setting up an independent citizen planning commission, we must today take cognizance of the fact that the trend has been toward more efficient and more responsible local government. There is reason to believe that this trend will continue. It will, however, be most likely to continue if public interest is directed toward the selection of competent officials rather than toward reliance upon independent boards set up outside the governmental structure.

9. Planning agencies have been severely handicapped by the prevalent lack of a full-time executive head.

The consultant, who played a leading role in city planning until 1930, has by the coincidence of municipal retrenchment with the expansion of state and national planning been largely withdrawn from the local scene. As a result the work of urban planning agencies has come largely under the direction of the resident planners during the past decade. The professional status of this group is not yet clearly defined, but through their professional affiliations they are participating in a common body of knowledge and experience which may be expected gradually to raise the standards and augment the prestige of the occupation. Nevertheless, in only a few cities does the resident planner have the professional standing, salary, and status to enable him to deal with high administrative officials on their own level.

10. Present technical planning staffs are altogether inadequate.

A very small proportion of city planning commissions have any appropriation whatsoever for technical assistance. In 1936 only sixty-four had budgets totaling $1,500 or more. This is in part a consequence of the consultant tradition in planning and in part a reflection of the fact that many commissions were created for the sole purpose of preparing a zoning ordinance. Where technical planning staffs exist, they are composed almost entirely of persons trained in engineering, drafting, and the architectural professions. Persons trained as statisticians and in the social sciences are conspicuously absent from all but the exceptionally large staffs. Planning cannot assume a place of importance in municipal administration until adequate and balanced staffs are available. The staff situation is aggravated by the fact that present meager staffs are more often than not absorbed in administrative detail in connection with applications for changes in zone classification and for approval of subdivision plats.

—The foregoing paragraphs from the chapter on "Findings and Conclusions" of Robert A. Walker's timely new book on "The Planning Function in Urban Government" (reviewed briefly on page 107 of this issue of THE AMERICAN CITY), are reprinted by permission of the University of Chicago Press. Two other paragraphs in this chapter pointed out that the extra staff assistance which planning agencies have obtained from the relief rolls has played a vital part in the development of recent planning programs and urged closer integration of local planning with planning at other levels of government.

Municipal Swimming Pool for Richmond's Negroes

By J. Malcolm Pace
Chief, Bureau of Parks and Recreation, Richmond, Va.

NEGROES of the city of Richmond are using for the second season their new municipal swimming pool built in Brook Field. The new pool, of concrete, is 185 x 60 feet by 2½ to 11 feet deep, for 600 bathers. Last year it served 65,000 without the loss of a life. There were two cases of resuscitation and 92 rescues, and 200 persons learned to swim.

A pump circulates all the water every 12 hours, taking it from the pool through outlets around the side just below the scum gutter, thence through 90-inch pressure filters, and back to the pool through the inlets in the floor slab and in the wall at the shallow end. Before entering the filters the water is treated with ammoniated alum for coagulation and with soda ash for controlling acidity or pH. On leaving the filters, the water is treated with chlorine.

Testing equipment is provided for periodic tests on the site. The pool is vacuum-cleaned daily without emptying. Lighting is by ten 1,000-watt floodlights on six 30-foot fluted poles 6 inches in diameter at the base and 2 inches at the top.

The brick bath-house has concrete floors and walls lined with salt-glazed tile. Water heating and storage facilities are in the basement.

PRINCIPAL EQUIPMENT

Recirculating pumps — American Marsh Pumps Inc., Battle Creek, Mich.

Filters—Roberts Filter Mfg. Co., Darby, Pa.

Testing equipment—Wallace & Tiernan Co., Inc.

Vacuum cleaner—United Electric Corp., Canton, Ohio.

Floodlights—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Floodlight standards—Union Metal Mfg. Co., Canton, Ohio.

Hot water heating equipment—American Radiator Co., New York, N. Y.

Fencing—Anchor Post Fence Co., Baltimore, Md.

Watch These Pages

for illustrations of some of the country's outstanding new municipal pools, such as those at:

Buffalo, N. Y.
Farmington, Mo.
Forest Park, Ill.
Jacksonville, Fla.
Macon, Mo.
Maplewood, Ill.

Municipal pools pay the city and the bathers.

CBM Paving on Hillside Street

Marietta, Ohio, Widens Old Streets—Relief Labor

Wall and CBM Pavement Curing on Pearl Street Extension, Marietta, Ohio

AS PART of its current paving program, Marietta has completed the paving of several streets with 9,400 square yards of cement-bound macadam, using relief labor, and also 5,300 square yards of asphalt resurfacing of brick streets from which the old bituminous retread had worn off. The bituminous work was all done by contract.

Pearl Street Extension

The Pearl Street extension is a typical CBM project involving the paving of 3,073 feet of an old 10-foot gravel road with a 16-foot cement-bound macadam and 500 feet of concrete curb around a sandstone wall to prevent under-cutting by water draining from the pavement. The wall was built where the slope of the ground was so steep that it was impossible to widen the road materially at this section, and also to protect a number of houses built on the uphill side of the road. In preparing the street for repaving, a WPA pick-and-shovel gang removed an average of about 12 inches of the old gravel road to give a more uniform grade. The grade on the Pearl Street extension ran from 9 to 12 per cent, but on some other streets, in the hill section of Marietta, this paving has been laid on grades as steep as 19 per cent.

Aggregate for CBM

In order to secure an adequate supply of the coarse aggregate necessary for cement-bound macadam construction, the city leased a sandstone quarry and then turned it over to the local Works Progress Administration officials for operation. The 4-inch and smaller stone which was mixed for the 6-inch stone layer for bonding with grout was hauled by city trucks from the quarry to the job and dumped from the tailgates of the trucks. The stone was then spread and graded between steel forms by hand preparatory to grouting.

Pouring the Grout

In order to expedite the work, grout was delivered to the job in 1½-yard truck mixers from a commercial plant and poured from the mixer body directly onto the road through a chute and a trough with a long slot across the bottom to distribute the grout evenly across the 8-foot section. Heavy chicken wire was laid over the stone during the grouting operation to make it easier for the men to walk on the stone while handling the chute and distributor and while brooming the grout uniformly across the surface as it filled the voids in the coarse aggregate.

The road was divided into 20-foot sections, 8 feet wide, for pouring by steel plates which extended to the subgrade and which were removed and replaced with a 1-inch expansion joint material just ahead of the actual pouring of the grout. Behind the grouting operation the stone and grout were tamped longitudinally by a 6 x 6 timber 8 feet long with plow handles at each end and handled by two men who operated it vigorously to thoroughly consolidate the grouted section and to prevent any voids from remaining in the slab. One man with a metal hand tamper also worked along the edges where the long tamper could not work easily.

Finishing

To give the surface a slightly roughened texture, it was dragged with burlap just before the surface grout had reached its initial set. The surface was then covered with wet burlap or straw for curing, and kept wet for 24 hours.

On the outer edge to prevent

Compacting the 4-Inch and Smaller Stone in a 6-Inch Layer, Preparatory to Pouring the Grout Binder

water from running over onto property on the low side of the road, lip curb was built by hand 3 inches high and 6 inches wide with a straight-line sloping face.

The asphalt resurfacing program, done by contract, consisted of a 2-inch binder course using maximum ¾-inch gravel, varying the thickness of the binder where low spots were encountered, so that it would present a level surface, for the 1-inch surface course with maximum ¼-inch gravel as aggregate.

—The paving program in Marietta, which has been carried on intensively for the past two years, has been done under the direction of T. J. Farrell, City Engineer, and E. G. Gray, Assistant City Engineer.

Pouring the Grout from the 1½-Yard Truck Mixer, Through a Chute and Slotted Trough Across the 8-Foot Section of the Road

The Tulip Festival, Holland, Mich.

By S. N. HOUTMAN

ABOUT one-third of the tulip bulbs raised in the United States are shipped out of Holland, Mich. This little municipality lying behind the sand dunes on the east shores of Lake Michigan is composed largely of Dutchmen. Netherlands-trained bulb growers settled here because of the similarity of the terrain to the tulip-raising area around Haarlem beside the North Sea dunes.

Not only the bulb farms but the municipality is raising tulips. Approximately one million of them are planted along eight miles of street curbs and massed in city parks. When these burst into their vivid blooms about the middle of May, over a half-million visitors come to this little town of 15,000 people to admire the scene and choose bulbs for their own gardens.

So full was this community with the spirit and traditions of the flower-loving Dutch that they decided to hold a Festival at the tulip-blooming time. So for eight days each spring, over three thousand Hollanders don the colorful costumes and quaint wooden shoes of their forefathers.

Tulip Time in Holland, Mich., opens on the Saturday nearest the 15th of May with a street scrubbing ceremony in which a mile of brick pavement is thoroughly mopped by hand. All the townspeople participate in this ritual. The city officials appear in the costumes of Rembrandt's time.

The college president, who has been knighted by Queen Wilhelmina, will be found with brush in hand, side by side with the wooden shoe carver. Historical and musical pageants are scheduled as well as exhibits and parades. All touches of commercialism are banned wherever control is possible.

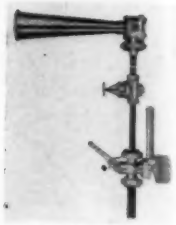
EDITORIAL NOTE.—Other details of the development of this festival are given in "Tulip Time in Michigan," in the April, 1940, issue of *Parks and Recreation*, organ of the American Institute of Park Executives, Box 422, Tulsa, Okla.

The Mayor of Holland, Mich., instructs the citizens to scrub the street in preparation for the Tulip Festival

PHOTOGRAPHS BY CLYDE H. GEERLINGS

When Fire Breaks Out

Horn Alarm and Boxes Protect West York



Diaphone Unit

By Joseph G. Spahr
Fire Chief, West York, Pa.

THE borough of West York, Pa., although immediately adjoining the city of York, big manufacturing center of the lower Susquehanna valley, is not rich. During the depression, the Borough Council was hard-pressed to spread thinning tax moneys over administrative costs of a municipality of 5,500 population.

In 1937, officers of the Reliance Volunteer Fire Company of the borough, alarmed because the equipment of the company would soon fall far short of the Underwriters' specifications and because Council could not finance new equipment, organized an "alarm and apparatus committee" within the company, under the direction of Charles Slyder, Chairman, and Howard F. Zarfoss, President of Reliance Company. They set a goal of $25,000, to cover the purchase of a complete fire-alarm system, plus, later, an aerial ladder truck.

Before the first year was out, we had made enough money to finance the purchase and installation of the wire circuit for the alarm system. We had decided on the Gamewell Vitaguard System, with Diaphone Horn Alarm and, in August, 1937, the 3½ miles of single-wire loop circuit was installed, along with a central-station transmitter in the fire hall. The cost of this installation, $4,320, was paid principally by social activities undertaken by the company, plus a few donations.

The end of 1938 saw the deficiency rating on borough fire insurance reduced from .27 to .19, representing a saving of many hundreds of dollars by both local industrial plants and the public administration.

A few months after installing the circuit, the first boxes were installed. By means of the local press, we undertook to familiarize the borough residents with the operation of the system. We explained that, although only a few boxes were then installed, the system was in operation at all times. The borough was divided into Zones 1, 2, and 3, and each street intersection in each of the zones is an alarm point and numbered accordingly.

The Author Alongside One of the New Fire-Alarm Boxes

Thus, all points in Zone I have that number for the first digit of the sounded alarm. The second and third digits of the sounded alarm are the keys to the point itself—the second digit giving the street from east to west, and the third, the street from north to south. These points are all listed on a chart at the central transmitter station in the fire hall. In case of a telephone alarm, the alarm of the nearest point is blown on the horn. Copies of the alarm list were distributed to all homes and business places.

Box by Box

As money for each box was raised, the box was immediately ordered and placed in operation. Each zone soon had two or more boxes. It developed, however, that we could not undertake to install the "Box a Block" system advocated by The Gamewell Company. The next best plan, recommended by the National Board of Fire Underwriters for communities of this size, called for box locations at 500-foot intervals in business sections and at 800-foot intervals in residential sections. We now have 27 boxes installed, at an individual cost of $150 to $175. Eleven were donated. A box to be put in 50 year from now already has its number waiting for it.

The boxes are all of the Peerless Three-Fold type, which provides these safety features:

1. Under normal conditions, alarms are transmitted over closed metallic circuits without the use of grounds or other connections.

2. On a broken wire circuit, any operated box will automatically apply a ground and transmit the alarm over whichever side of the circuit is unaffected by the defect.

3. In cases where short circuits or shunted-out conditions exist, the boxes operated will automatically apply grounds and transmit alarms correctly.

Of the non-interference type, each box will properly transmit its

alarm, in sequence, even in the event of precisely simultaneous operation. Should a box be "pulled" on a busy circuit,—that is, where another box is already transmitting an alarm,—it will continue to run, testing the circuit at regular intervals, and taking control of the circuit as soon as the signal from the other box is concluded.

The boxes are visible from any street point within their area, and red triangular lamps, marked "FIRE," burn night and day above each box. Each box is tested periodically.

The compressed-air Diaphone Horn was installed on a 30-foot tower atop the two-story engine house. Prevailing westerly winds made it necessary to face the horn bell to the west. It is operated from the control panel which is located on the truck floor of the fire hall.

At first, residents were startled by the deep bellow of the horn in test blasts, and a newspaper reporter dubbed it "Ferdinand the Bull." The name stuck, but West Yorkers are now used to the sound, and prefer it to the siren that formerly announced all alarms. A four-second interval between blasts makes all digits of each alarm distinctly audible.

Other Fire Defenses

Fire-fighting equipment of our volunteer company, numbering 785 members, includes an American-La France 750-gallon and a Buffalo 600-gallon triple combination with booster pumps; over 3,600 feet of hose, with spray nozzles, chimney tips, rigid and flexible suction sleeves, ladder complement for both of the trucks, and tarpaulin damage sheets. The borough is fortunate in having good water supply, by hydrant, from 12-inch to 6-inch mains.

The company is a member of the York County Cooperative Firefighters Association and may call as many pieces of apparatus as necessary from a dozen surrounding communities. When answering a call from a member company, our company leaves one piece of apparatus and its driver on duty at our fire hall. The stand-by system is used by the Association, and complete protection is available at all times.

The 1940 fire loss in the borough amounted to $5,410, and almost 90 per cent was the result of one fire in a roofing materials factory. In the last five years, fire losses on dwellings averaged less than $200 per year. Now we are looking forward to the purchase of the aerial ladder truck.

Modern Diesel Engine Service

By W. W. GUERNSEY
District Manager, Fairbanks, Morse & Co., Kansas City, Mo.

MOST diesel-engine manufacturers maintain comprehensive engineering forces, or build their engines under patents given by manufacturers who do maintain such forces; so that today there is accumulated quite a reservoir of operating information which can be drawn on prior to installation. This obviates many of the unsatisfactory experiences of buyers during the first stage passed through by the industry.

Duty of Engines

First consideration is usually given to the duty desired from the contemplated equipment. Is an engine wanted for long runs where low cost of operation and continuity of service are of first importance? Is the unit to be used for stand-by, which would make longevity and low-cost operation of secondary importance? *Exhaust conditions* must be considered. Will the unit be installed in a relatively thickly populated area where a maximum amount of silencing will be a requirement?

Nine times out of ten I can look at a report on the operation of a municipal electric plant and come pretty close to telling, sight unseen, what that town's plant looks like in point of good housekeeping.
W. W. G.

The method of scavenging must be considered. Will the engine be installed where there will be a great amount of dust and foreign matter constantly in the air? This will determine the type of air filtering to be used.

The availability and quality of *the cooling water* must then be considered. In some cases it is advisable to use closed cooling; in others forced draft, and in some cases there is available an adequate amount of good water which can be either wasted or used raw.

There are conditions into which *vibration* enters. Some installations are made on quicksand or just above quicksand, and the proper type of foundation must be designed.

Types of *lubricating oil centrifuges*, or reclaimers, must be considered and—*fuel oil*. I have in mind mistakes that have been made with fuel oil, its storage, its handling and treatment prior to introduction into the engine.

Good Service

The first requirement of a diesel-engine installation is that the equipment be correctly installed. Good practice favors installation by an erecting engineer in the employment of the supplier. These men have the necessary practical experience. Mistakes and time can be saved by using these men, who are also able to give the buyer's operators a great deal of information during the period of installation, to put the future operators in a better position to secure the best operating results. After the equipment goes into operation, this advice and service are usually available for routine overhauling.

The manufacturer must maintain an adequate stock of the most

commonly required parts, reasonably close to customer. Indeed, such parts as main bearings, connecting rod bearings, piston pins, piston pin bushings, pistons, cylinder heads, fuel-injection pumps, fuel-injection nozzles, lubricators, gaskets, ought to be available at almost a moment's notice. Parts for auxiliary equipment also should be easily obtainable because if, for any reason, an engine is deprived of cooling water or lubricating oil, the entire unit is as useless as if it had a broken crankshaft. A factory branch maintaining an adequate stock of parts saves a duplicate investment by many customers. The chances are it will be years before a main bearing is needed; it would be years possibly before a piston is needed: it is not uncommon for large plants to operate for many years with maintenance expense running only from 50 to 75 cents per horsepower per year. If every plant had to carry a stock of parts, there would be quite a duplication of investment.

Periodic Check-Ups

Periodic check-ups inform the plant operators on the present condition of their equipment.

A dissemination of general knowledge is advisable. From time to time there are changes in types and quality of fuels, which only a laboratory can keep up with. For instance, a few years ago a shellacked cylinder and piston was virtually an unknown item. Today, with the changing conditions relative to refining, many plants have made the acquaintance of this difficulty. Cooling-water conditions in many cases have caused difficulty before the customer recognized it, owing to a change in the quality of water obtainable under drought condition. A town that had been obtaining its water from an impounding dam never had any trouble until this supply ran low and they commenced to use water from wells having appreciable salt content. Hence it is advisable that the circulatory system of an engine be checked periodically.

Exhaust conditions change owing to accumulation of foreign matter in pits and silencers, finally resulting in extensive and expensive back pressure. The fact that manufacturers of silencing equipment have made so many changes in their product is indicative that there was much room for improvement in the past—and this too may be true of the future. It therefore behooves operators to keep an eye on the scavenging of their engines.

Lubrication

Fewer real lubrication problems have developed than is generally believed. Nearly every oil company is on its toes to secure the best possible result from its product. These companies are invariably represented by experienced representatives desirous of cooperating with both the user and the manufacturer to give the customer the lowest possible cost of lubrication. Oils continue to be blamed for many difficulties of which they are guiltless, in most instances because of the human instinct to blame something that you can see and that you know a little about: the oil is there; you can pour it out of a barrel; so if something goes wrong, why not blame the oil? Exhaust conditions, cooling-water conditions, are hard to test and are more or less intangible; so that lubricating oil has been the "fall guy" for many situations which it did not actually create.

Cleanliness

Equipment must be kept clean. Ignorance and uncleanliness have caused more trouble than all the other trouble-makers combined. Outside cleanliness is the first indication of inside cleanliness. If a plant's equipment is clean outside, if the floors, windows, auxiliary units are spotless, it is powerful testimony that the pistons are pulled regularly, that stuck rings are an infrequent occurrence; that connecting rod and main bearings are in good order; that fuel injection nozzles and fuel pumps are kept clean and properly set, and—that the plant is making a good showing in kwh per gallon. The old-time superintendent may be one of the town's best business men. He is, in most cases, operating the most profitable establishment in his community. He is running his plant and doing its bookkeeping and accounting by methods often unknown or unthought of by his predecessor. He is constantly studying. In most cases he is vested with the power to hire and fire, and his position is kept free from politics. Where this condition prevails, more and more profit and satisfaction will accumulate to the town's advantage.

Total Taxes—1940

ALL TAXES in the United States equaled 20 per cent of the national income for the year ended June 30, 1940, according to a March 26 release of the Bureau of the Census. Total collections of all Federal, state and local governments approximated $14,300,000,000 for the year, or $109 per capita, of which the Federal Government received $39 per capita; state governments, $27 per capita; and local governments, the remaining $43.

Cities Can Secure Priority

ON MARCH 15, 1941, the Office of Production Management, Division of Priorities, issued an amendment to Priority Circular No. 2 explaining the operation of the priorities system. While this system is designed primarily to secure rapid delivery of military supplies, non-military supplies needed to maintain existing essential services are also given priority ratings.

Cities finding that supplies essential to their governmental functions cannot be delivered to them because of the general increase in production caused by the National Defense Program should file application with the Office of Production Management, Division of Priorities, for a priorities certificate allowing the city to receive these essential supplies ahead of those not in such need as the city.

Illinois Village Raises Zoning Standards

HIGHER ZONING STANDARDS for multiple-family residences were recently adopted by the Riverside Village Board after considering lot areas, present lot values, available building sites, water and sewer lines, street widths, tax returns, and probable unwillingness of property owners to pay for additional playgrounds and pavements and utilities. Building height limit is 27 feet to the ceiling of the top story. For each living unit there must be at least 2,200 square feet of lot area, one parking space on the lot, and 200 square feet of rear yard space in addition to that used for driveways and parking. Minimum rear yard depth is one-fourth the lot depth. Area of parking space and building may not exceed 35 per cent and 40 per cent of the lot.

—From a new bulletin of the Chicago Regional Planning Association.

Airport Progress at Evansville, Indiana

Present Active Program to Make the Municipal Airport Suitable for Connecting Services and Training Center

THE Municipal Airport at Evansville, which was started in 1928, and has since proved inadequate, is now being enlarged and modernized in a program for which the city issued bonds amounting to $150,000, and for which WPA is contributing $389,650 for labor and materials. The major objectives for 1940-41 are the paving of the three main runways 3,500 feet in length and 100 feet wide, with concrete, and the completion of the network of surface and subsurface drainage with vitrified clay bell-and-spigot pipe, the construction of a new administration building, and the installation of new boundary lights, contact lights for the runways and new floodlights.

Drainage

The old airport, 251 acres in area, to which 13 acres has recently been added, has 15 miles of tile drain which is being intercepted by the 3½ miles of new vitrified clay bell-and-spigot pipe laid with cement joints and varying from 24 to 10 inches in diameter. Examination of the ground by U. S. Army engineers showed it to be a gray clay which is not pervious, so that fifty drop inlets are spotted over the field to take care of the major surface drainage. These inlets are 10 inches in diameter with steel gratings on top.

The new vitrified clay lines parallel the runways and are aimed to take the surface drainage chiefly from the runways, but also pick up the water from the lines of subsurface drainage which had previously been laid and also the water from the drop inlets. The labor crews organized at the airport for pipe work regularly lay about 600 feet of the 15- to 21-inch pipe in an 8-hour day after excavating a trench averaging 6 feet deep. In accordance with WPA requirements, all trench more than 6 feet deep is braced, but under 6 feet the material stands on a vertical face without sliding. Sasgen hand derricks on A-frames were used for placing the largest pipe, and the smaller sizes were rolled into the trench by using a stake through the pipe with heavy ropes attached at each end.

A Hand-Excavated Trench 6 Feet 6 Inches Deep for a 21-Inch Vitrified Clay Pipe Drain

The final drainage ditch for the system is an open ditch 10 feet deep with a 6-foot bottom and 1½ to 1 slopes riprapped on the bottom and sides and grouted. The trenches for the pipe were backfilled by a Galion 8-foot leaning wheel grader pulled by an Allis-Chalmers 35-hp tractor. The same outfit spread the excess dirt from the trenches over the field to improve its drainage slopes. About 300 laborers were used laying pipe, and when concreting started with two 6-hour shifts a day, except Sundays and holidays, this was increased to four hundred men.

An Allis-Chalmers 55-hp Tractor and Galion 8-Foot Blade Grader Backfilling Drainage Trenches and Spreading Excess Dirt

Runways and Other Paving

The paving of the runways, connecting runways, taxi-ways and apron, started just after Labor Day, 1940, using a 27E paver and batch trucks loaded from wheelbarrows by relief labor. The 3,500-foot runways, 100 feet wide and 6 inches thick of plain concrete, are thickened to 7½ inches at the expansion joints, which are spaced 120 feet apart, and at the edges of each lane. Contraction joints are spaced 15 feet apart. In order to set up the most expeditious program for pouring, the two outside lanes on each runway were poured 4 feet wide and will serve as a gutter for the runway with inlets at intervals. The other eight lanes were poured 11½ feet wide. The three major runways are north-south, northeast-southwest, and east-west. The airport is bounded on the east by the Big Four Railroad and on the west by U. S. Highway 41. Plans for the possible future extension of the runways, if required by heavier planes using the airport, will be toward the north.

A taxi-way 1,900 feet long and 50 feet wide connects the runways and hangars, and with the large triangular loading apron accounts in itself for 1,900 square yards of paving.

Lighting

The present system of lighting at the airport includes 43 boundary lights, 3 floodlights and 54 obstruction lights on telegraph poles along the railroad and highway. During 1940, conduits were laid for the extension of the boundary lights, for the new contact lights along the runways and for new more powerful floodlights. Contracts for these additions are to be awarded in 1941.

Airport Buildings

The existing administration building is not adequate for the airport, and a new one is to be built in the coming year, with which will be combined the offices of the Civil Aeronautics Authority and the Weather Bureau. The present administration building is used for Eastern Airlines headquarters. A local student pilot training course is sponsored by Evansville College. During 1940 it had three classes of 30, 45, and 20 men, each using the Sportsman's Pilot Club Building as headquarters.

One 80 x 100-foot hangar was built at the field several years ago, but a new hangar 100 x 110 feet is to be built shortly of steel and concrete blocks with offices on the field side and shops on the other side.

Use of Field

The Evansville Municipal Airport is located 6½ miles from the center of the city, so that it is reasonably convenient, particularly over the recently completed highway which passes the port. To further increase the service of the airport, 10,200 feet of 8-inch cast iron water main has been laid, connecting with the city distribution system.

There are five flying instruction services, each with an instruction plane housed at the airport in the one large hangar, and five taxi services with twelve planes; and 30 private planes are maintained at the airport. There is a considerable number of transient planes and business planes making use of the airport, including those of two oil companies and the U. S. Army Air Corps. About five training planes for the Civil Aeronautics Authority stop at the port each week. The Sportsman's Pilot Club, composed of local aviation enthusiasts, now maintains a new plane at the airport.

On September 15, 1940, Eastern Airlines started a service with 21-passenger DC 3 planes making stops at Evansville on the St. Louis-Nashville route.

The Evansville Municipal Airport is operated by the city of Evansville, Ind., through its Board of Aviation, with H. F. Carlson as Airport Manager. M. E. Boelson was Resident Engineer for the Board of Aviation during the entire program of reconstruction of the airport.

Final Population and Housing Figures for Cities of 10,000 and Over

A TABULATION of the final population and revised housing figures from the 1940 census for urban places in the United States having 10,000 inhabitants or more was released by the Bureau of the Census on April 4, 1941. These urban places include incorporated places (cities, towns, villages, or boroughs), together with a few densely populated townships and similar areas classified as urban under special rule.

On April 1, 1940, there were 1,077 urban places having 10,000 population or more, with a total of 62,715,897 inhabitants. On April 1, 1930, there were 982 such places, containing 58,340,077 inhabitants. Thus, the population in urban places of this size increased 4,375,820 between 1930 and 1940, or 7.5 per cent. This increase is partially attributable to the inclusion of 95 more places of 10,000 inhabitants or more in 1940. Of the 1,077 urban places of 10,000 inhabitants or more in 1940, 829 gained population and 248 lost population between 1930 and 1940.

There were 18,228,491 dwelling units in these 1,077 urban places, of which 796,148, or 4.4 per cent, were vacant and for sale or rent, according to the returns of the 1940 Housing Census taken with the population counts.

The number of occupied dwelling units in these 1,077 urban places represents approximately the number of private households and may therefore be compared roughly with the number of private families reported for the same places in the 1930 Census.

The vacancy range was wide, from less than 1 per cent in 59 of these places, to more than 10 per cent in 20 of them. Low vacancy ratios were found in industrial towns, and high in seasonal resort places.

In addition to the vacant units on the market, there were returned 70,883 vacant units not for sale or rent. These were mainly vacant dwelling units held for absent households, together with a few units occupied by non-resident households, that is, households reporting that their homes were located elsewhere. Seasonal, as well as ordinary, dwelling units are included in all the housing figures.

In 1940, as previously mentioned, there were 62,715,897 persons living in the 1,077 urban places having 10,000 inhabitants or more. These same places, some of which had a population of less than 10,000 in 1930, had a total population of 59,116,867 in 1930. Thus these identical places increased by 3,599,030, or 6.1 per cent, between 1930 and 1940.

Local Government Is News

Giving the Citizens a Chance to See Their City in Action

By PHILLIPS BRADLEY

"SEEIN'S believin'." Long before P. T. Barnum, or modern rotogravure sections and movies, the value of visual demonstration was discovered by charlatans, artists and scientists. Today, when new techniques of making "pictures" are available for the using, seeing the city in action is becoming increasingly important to good government—and intelligent citizenship.

At least three ways of turning the city's activities into pictures are possible, one direct, two indirect. All of them are worth using by those who are responsible for the conduct of the public's public business.

Visits to the City's Activities

The direct way is to bring the public into the City Hall—and in touch with all the varied jobs a city does. Technical functions, like water supply, sewage disposal, street construction and maintenance, weights and measures inspection, have a fascination for everyone. The social services, such as health, offer many ways of dramatizing the jobs of the anonymous public servants who keep the city a pleasant place to live in.

How can we make these activities better understood—and appreciated—by seeing? The best way is through the schools. Many teachers would welcome a chance to bring their pupils into direct contact with the city's work and the officials' jobs. In many communities, trips to the City Hall and other municipal centers are already a regular part of the school program.

Of course, school visits do take time from the day's work. But they are likely to pay dividends in citizen interest and understanding. The pupils who come to City Hall carry away impressions that are more vivid and last much longer than reading about the city's services and the people who run them. And what they see and learn goes home to entertain—and instruct—their families.

Exhibits and Museums

Another useful way of making citizens aware of their city's activities is to organize a traveling exhibit. Charts, diagrams and pictures—those in the annual reports and others—can be focused on the work of the various city departments. A little imagination will go a long way toward making the city's services into a dramatic story in pictures. A series of these exhibits can be sent, with or without speakers, to all kinds of civic groups, as well as to the schools. It would also pay any community to develop a permanent museum—even a small one. Here these exhibits could be centralized and shifted from time to time to bring in new services or new activities. A year's experiment would prove that once citizens know that they can learn about their city's services through a graphic illustration, they will take a chance to do so.

Documentary Films

Perhaps the most valuable investment in visual education which a city can undertake is through the making of movies. The art of making "documentary" films is no exclusive prerogative of the professional. Although expert guidance is desirable, any good photographer with a flare for catching the unusual and making the obvious interesting can do a worth-while job.

A recent study by the International City Managers' Association* found that real attention to the technical side of film production was essential. Proper synchronization and effective casting are indispensable to good results. Furthermore, such questions as focuses and perspectives, the direction of "angle shots" and similar matters of good artistic arrangement, are useful and can be achieved even by amateur photographers who have a sense for the essentials of the story.

Another aspect of an appealing film job is a proper selection of topics. Sequences should be carefully worked out and the story which the film tells should be cumulative, not disconnected. Interesting titles can be an integral factor in telling the story.

A further consideration may be mentioned. Somewhere in almost every department, at least in a moderate-sized city, there is some one who has a real insight into the interest which the citizens will have in the job his department is doing. Such a person, after consultation with the department head and bureau chiefs, ought to be free to put his time on the job of developing a film that will tell an effective story. The time invested will pay sound dividends to the department in citizen understanding. In larger cities it is clearly a function which can be combined with other aspects of the department's public relations, which can be thoroughly justified as a "line" in the department's budget. It ought not to be necessary to go outside the department to find this kind of interest.

Costs will vary with such factors as length, type of film (black and white or color), number of copies made, size (16 or 35 mm.), sound or silent. Developing costs seem to run around $2 for 16 mm. and $3 for 35 mm. per 100 feet. A 400-foot sound reel (16 mm.) will run between $30 and $40 in black and white, or color; and a silent film of the same length between $27 and $35 (black and white, or color).

While a silent film makes possible the interpretation of a commentator, a sound film makes for a more coordinated picture and is perhaps more acceptable to the public. With a little practice it ought to be possible to develop adequate technical treatment for a sound film in any department. Of course, there will be some necessary experimenting in cutting and rearranging, but the investment in citizen goodwill is well worth the cost.

These three ways of reaching the public—school (and other) visits, exhibits and movies—are new ways available to the city official for interpreting his job to the public. In cities where technical high schools exist, the making of films can easily be coordinated in the school's photography workshop. Similarly effective exhibit materials can be developed through the art departments of the schools. Thus, all the city's services can cooperate in making new and more effective ways of interpreting their jobs to the people. All it takes is a little initiative, a dash of imagination, and the will to make the public realize what their services are doing. None of these activities need be propaganda; few of them indeed can be. But it is an adage even more true for government than for other activities that "seein's believin'."

*See p. 93. THE AMERICAN CITY, April, 1941.

Alley Refuse Collection by Motorcycle Tractor

Baltimore, Md., Solves Problem Created by Shift from Old Horse-Drawn Equipment to Motor-Truck Units

By George H. Elliott, Jr.
Associate Engineer,
Bureau of Street Cleaning,
Department of Public Works

APPROXIMATELY 65 per cent of all refuse collection services in Baltimore, Md., are made from the rear alleys with which this city abounds. The containers are removed from a point just inside the rear gate. The old horse-drawn equipment formerly in use was able to make the necessary turns at the various alley intersections and therefore this work did not present a problem at that time.

The alleys from which the collections are made may be divided into three types: first, the through alley; second, the H type; and third, the T type alley. When collection units were motorized, the last two types of alleys gave the Bureau of Street Cleaning a great deal of trouble due to the fact that the cross-alley of the H type and the vertical end of the T type alley were not accessible to the new large motor trucks. The carrying of the containers of refuse was found to be quite costly, in addition to numerous complaints which developed relating to the littering of the alleys and the loss of containers. There was no possibility of changing the point of collection, as in many cases the service had been rendered from these alleys for thirty years or more.

The Problem Studied

A very careful survey was carried out by the Bureau, using competent inspectors who worked under the personal supervision of Bureau Assistant Engineers and studied the following factors:

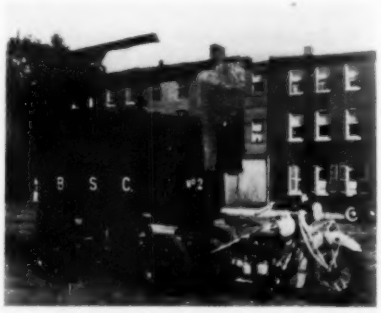
1. The locations of all alleys of these types
2. The number of houses abutting on these types of alleys
3. The type of house involved, whether two- or three-story dwellings, apartments, or tenements
4. The number of persons occupying these houses
5. The amount of waste materials regularly collected on each weekly collection day

When the survey was concluded and all the facts were in our possession, it could readily be seen that all alleys of the H and T types must be given service by some special equipment. Therefore, all routes were adjusted and each collection truck was relieved from operating in these alleys. The result is that the job is being done by the same amount of equipment, although one truck in each of the three divisions handles this type of work only, having no other assignment. It was definitely determined that the only solution would be the development of some special type of mechanical equipment which could operate through the alleys and render the service as formerly given.

The Standard Trash Truck Used for Refuse Collection in Baltimore

The Motorcycle Tractor

An Indian 3-wheel Motocycle tractor was purchased, since this type seemed most suitable for our purpose. Then, an Army trailer was acquired and the front axle and wheels, the tow-bar, sides and top were removed, and the trailer coupled to the back of the motorcycle with a fifth wheel. Sideboards of 12 x 1-inch lumber were mounted on the trailer, and the body was built 6 feet long and 4 feet wide.



The Motorcycle Tractor and Trailer, Showing the Steel Hoist for the Containers

A steel hoist was erected on the back of the trailer. It is constructed of 2-inch steel I-beams and travels in a 2½-inch slotted steel case. The hoist is raised and lowered by means of a 2-ton chain fall. At the top of the hoist a 4-foot steel beam was erected which operates over an arc of 120 degrees, making it possible to swing the materials picked up to a position directly over the motor truck receiving them. This beam is equipped with a traveling hook which permits the container lifted to be suspended from any position on it.

On each of the four corners of the trailer a 2-ton hydraulic jack was attached, so that the entire load is carried on these jacks when the hoist is in service. This of course relieves the springs and rear wheels of any strain. Another 2-ton hydraulic jack is attached to the side

of the trailer body and is placed in position against the truck body to prevent any movement or swaying of the hoist when the materials are shifted over the truck. Two metal containers are used on the trailer, and all materials collected from each property are placed in them. The containers are 3 feet 6 inches long, 2 feet 8 inches wide and 4 feet high. The top of each container is 4 inches smaller each way than the bottom. The bottom is in two sections and hinged, and is held in place with a snap catch. The shape of the containers permits the contents to dump freely and quickly when the catch is tripped.

This motorcycle tractor trailer

Transferring Materials from the Containers Hauled by the Trailer to the Collection Truck

now collects all materials from each residence at a normal cost and has eliminated the littering of the alleys, in addition to replacing all containers on the right property. It works in conjunction with a regular trash truck and when loaded proceeds to some designated location where the materials are then transferred to the truck. We now consider the motorcycle and trailer as standard equipment. However, at the present time we are compelled to raise the hoist to an elevation of 18 feet from the ground to clear the sideboards of the trucks. It is hoped, therefore, to develop a less costly type of hoist which will eliminate the one now in use as well as to eliminate the use of the containers. This is the manner in which we have solved our alley collection problem, although the equipment in use is still in the experimental stage.

Excess Condemnation to Facilitate Urban Redevelopment

To the Editor of THE AMERICAN CITY:

In their articles in your issues of December, 1940, and January, 1941, H. R. Briggs and Ann R. McGinley make a comprehensive and disinterested presentation of both sides of the highly controversial subject of excess condemnation. This method of land acquisition has been much discussed but little used by municipalities, even in the eight states where it has been legalized. Where it has been used, little consistency of results has been achieved. This may have been due to an inherent weakness in the particular improvement, a fluctuation of economic conditions, a shift in local trends or policies, or to any one of many causes. To these variables, in the future should be added the rate of crystallization of land values resulting from that state of stabilized population which, in varying degree, confronts practically every municipality in the United States. This factor, perhaps more than all others combined, will tend to discourage the use of excess condemnation in connection with the usual type of public improvement. There is, however, a logical place for the employment of this power, which deserves some consideration.

Holding the further exploration of a new use for this power in abeyance for the moment, a comment on one statement made in the Briggs-McGinley articles may be pertinent. The opinion is hazarded by the authors, that, in the Kilbourn Avenue widening "the acquisition of excess land has resulted in very substantial savings for Milwaukee." Inasmuch as the benefit assessments levied in this case have not yet been adjudicated by the courts, the statement seems premature. Until the amount of special benefits, if any, has been determined by the entry of final judgment in the case, the question of savings or losses involved must remain open to conjecture. The ultimate determination of both the law and the facts in the Kilbourn Avenue case will be awaited with great interest by students of municipal finance throughout the country.

Returning to the new field suggested above, the possibility of utilizing excess condemnation as a means of expediting acquisition of land required for the rehabilitation of blighted areas creates a revival of interest in it. This is not an altogether new thought. It has been employed and discussed before. It was advanced by the writer in an article published in the April, 1931, issue of *Recreation*, in the following form:

> When it becomes necessary in the replanning of our cities to create park and playground spaces, the interest of the public would be best served by the taking of a border strip of land in addition to the tract required for park purposes, and by the provision that such marginal area be thereafter used for housing purposes. Such a taking can be justified either under the ordinary power of eminent domain or under the power of marginal condemnation where such right has been established. It is therefore a public improvement, for which public funds may properly be expended. The expenditure of such funds in the consummation of a comprehensive plan of development insures the use of the land for residential purposes, which is the best use to which it could be put. Such use also tends to stabilize the character and value of property, thereby insuring the safety of the city's investment in the park by providing a higher revenue from taxes in the district which it serves.
>
> The logic of this reasoning is fairly clear even to the layman. Most of the conclusions can be established by expert testimony. The human element, however, projects itself so forcefully into municipal affairs that the only effective demonstration that can be made of the soundness of this theory must come as the natural result of the consummation of a project of this character under normal conditions. After one such demonstration there should be little room for argument as to the economic merit of this procedure.

The conclusions reached at that time have not changed during the ten years which have intervened since their writing. For the purpose of stimulating thought and precipitating further discussion, they are again offered as a suggestion to housing authorities, city officials, town planners, bankers, real estate investors and others interested in promoting the sound future growth of our cities. Any housing development carried out along these lines would seem to have a much better chance of ultimate success than one attempted without such restrictions and provisions.

W. C. BERNARD,
Technical Advisor, City of St. Louis.
March 19, 1941.

Keeping Streets Clean Throughout the Year

Rochester, N. Y., Has Wide Variety of Equipment to Insure Clean and Snow-free Streets

By EDWIN A. MILLER
Supervisor of Maintenance, Department of Public Works

STREET-CLEANING operations at Rochester include mechanical and hand sweeping and motor flushing in summer; leaf pick-up and removal in the fall; snow plowing and snow removal in winter; and picking up and disposing of the winter accumulation of street débris in the spring. In other words, each of the four seasons in this northern city requires varied street-cleaning activities to meet the demands of modern traffic and to maintain a high standard of municipal sanitation. The old methods of sweeping and flushing streets and removal of snow by hand labor have largely disappeared. In their stead, mechanized equipment and skilled personnel are required to perform the major portion of the work which, more particularly in the business sections of the city, must be carried out during the night hours. In fact, motor traffic and parking are generally such that it is impossible to carry out these operations efficiently during daytime hours.

Machine Sweeping

Mechanical sweeping is performed by seven motor units, six of which are in continuous use and one held in reserve. The fleet consists of five Austin-Western Patrol sweepers purchased during 1938 to 1940; one 1940 Elgin Junior sweeper; and one 1935 Elgin Model 20 sweeper. These machines represent an original investment of about $30,000. The sweepers operate in the residential sections only, each unit being assigned a route of about 25 miles per day for a 5-day period. When the unit is unable to complete its schedule within this period, the work may continue into the sixth day of the week.

This procedure permits the sweeping of all paved residential streets in the city at least once weekly during the months from April to October inclusive. It should also be mentioned that flushing of the swept surface follows within several hours, to complete the cleaning work. Thereafter, each street is flushed on alternate week-day nights for the remainder of the seven-day period. Sweeping operations are begun at 5 A. M. and concluded at 1 P. M. each day.

Each sweeper is followed by a 1½-ton dump-truck with a crew consisting of a driver and two helpers, and this unit picks up and hauls the sweepings to the nearest dump.

During the season of 1940 the seven sweepers traveled a distance of about 22,000 miles. The cost for operation was approximately $18,000, or about $0.80 per curb mile. This cost is for sweeping operations only and does not include the cost for disposal of sweepings.

The Fleet of Seven Motor Pick-up Sweepers Which Clean the Residential Streets of Rochester, N. Y.

Hand Sweeping

Hand-sweeping operations are confined to the main business district and the commercial districts adjacent thereto. Special gangs are assigned to cover the business district each week-day from 5 A. M. to 7 A. M., when the flow of traffic is at a minimum. After the latter hour these gangs are shifted to the areas where traffic is lighter, to complete their daily work. Two crews of two men each with push-carts and brooms work from 8 A. M. to 5 P. M. in the main business district, picking up papers and other small débris. Two to three gangs have a city-wide schedule for picking up tree, hedge, and lawn trimmings which are brought to the curb by property owners.

The total number of pick-up gangs employed varies from six to thirteen units, depending on the season of the year. A unit consists of a 1½-ton dump-truck with driver and three to four laborers. The work of hand sweeping and pick-up is performed under the direction of

Rochester's Fleet of Flushers Ready for Spring, Summer and Fall Street Flushing and, below, Equipped with Reversible Blade Snow-Plows for Winter Service

two district foremen and eleven squad foremen. The entire personnel, including laborers, totals about 75 employees.

Street Flushing

The flushing work is performed by a fleet of nine motor flushers, eight of which are in continuous service and one normally held in reserve. These units are operated in two shifts for sixteen hours on six days of the week. The routes are arranged so that the work in the business and commercial districts is carried out during the period from 10 P. M. to 6 A. M. and in the residential districts occupies the period from 6 A. M. to 2 P. M. Each unit is operated by a crew consisting of a driver and helper. Ordinary service and maintenance to the various units is performed during the remaining 9-hour period of each day, consisting of washing, greasing, and minor repairs.

The fleet consists of Autocar Model UT-453 chassis upon which are mounted 2,500-gallon water tanks, together with pumps, nozzles and other appurtenances furnished and installed by the Gar Wood Industries, Inc. All units were purchased during the period from 1937 to 1940 and are constructed similar to the type employed by the Department of Sanitation of the city of New York. The single-stage pumps are driven by the chassis engine through a power tower built as a unit with the main transmission, and develop an output of 450 gallons per minute at 50 pounds pressure with three flushing nozzles open and the motor operating at governed speed. One nozzle is placed forward of each rear wheel, and the third nozzle is located forward of the left front wheel. Two flushing speeds of about six and twelve miles per hour

The Snogo Used for Clearing Bridges and Scattered Points Throughout the City

are available by suitable selection of the gear ratios in the transmission and the rear axle. Further, the units have the ability to ascend a grade of about 3 per cent in direct gear at a speed of 20 miles per hour when carrying a full tank of more than 10 tons of water. These machines represent an original investment of about $65,000.

During the flushing season of 1940, the nine units traveled a total distance of more than 75,000 miles and discharged some 96,000,000 gallons of water in the work of flushing 440 miles of paved streets.

Snow Plowing and Removal

The major operation in street cleaning during the months of November to March inclusive consists of snow plowing and removal. Seasonal snowfall in Rochester averages about 70 inches, with occasional peak seasons of more than 100 inches. The months of February and March usually furnish several storms of high intensity each year, and during this period the entire fleet of snow-fighting equipment is pressed into service.

For the season of 1940-41 there was a total of 78 snow-plowing routes, 52 of which were covered by hired trucks, the Maintenance Section of the Department of Public Works furnishing a Good Roads Champion steel reversible-blade plow and appurtenances, and installing it on the contractor's truck which had been inspected and approved for service by the Supervisor of Motor Equipment in the early fall. These hired trucks are subject to immediate call by the Supervisor of Maintenance at any time of day or night during the snow-plowing season, and compensation is paid at a rate of $3.60 per hour, including truck hire, driver, and helper, for the actual time spent on plowing operations. The routes scheduled for hired truck plows are confined to the residential sections and a few scattered arterial streets.

The Maintenance Section reserves for its own equipment and personnel 26 routes in the business and commercial sections, including all main thoroughfares. By this procedure, it is possible to maintain better control over the cleaning operations, particularly when in the event of heavy snowfall it becomes necessary to operate a large number of plows in conjunction with the mechanical snow-loaders. The routes scheduled for cleaning with the Maintenance Section equipment are shorter than in the residential sections, which permits of

A Tractor-mounted Push Broom Used for Piling Leaves for Ease in Loading

greater flexibility in the methods employed.

The equipment in service is varied and represents an attempt over a period of years to secure units best adapted to work to be done. For the most part, ordinary plowing operations are carried out with the Champion steel reversible-blade type of plowing having a moldboard length of 8 to 11 feet. The latter units are of special heavy-duty construction and are attached to the Autocar flushers previously mentioned. Plows of the proper size and weight are available for immediate installation on the various Maintenance Section trucks of 1½ to 8 tons capacity.

For use on the outskirts of the city where bus routes must be kept free of drifting snow, and for various other heavy-duty plowing work, four Walter Snowfighters equipped with heavy-duty V-type front plows, 12-foot wings, and center scraper plows, all hydraulically operated, are held in reserve. There is also available a fleet of International wheel-type tractor plows and two Austin-Western motor graders equipped with V-type plows and ice-cutting blades.

For the work of snow removal in the main business district, seven Barber-Greene loaders are housed in a special garage nearby. In addition, the Maintenance Section owns a Snogo combined plow and loader which is employed in the removal of snow from the roadways of the several bridges over the Genesee River and at scattered points throughout the city.

The total number of snow plowing and removal units owned and maintained ready for service by the Maintenance Section is about 90. This equipment represents an original investment of approximately $150,000.

Leaf-Debris Removal

There are periods of short duration in both spring and fall when hand-cleaning gangs are kept busy in picking up the accumulation of miscellaneous street débris remaining after the final disappearance of the winter snows and the large quantity of fallen leaves which follow the mid-October frosts. The latter accumulation generally requires about a month of intensive work with a large number of men and trucks to carry out the complete removal. During the last three years, International wheel-type tractors equipped with a heavy wire front push-broom have been used with good success in sweeping up and piling the leaves, after which they are loaded into trucks and transported to a suitable dump.

Cost of Street Cleaning

In recent years, the Division of Maintenance and Operation has been required to operate on a reduced budget, and the brunt of this burden has fallen on the Maintenance Section. As a result of the lack of sufficient current operating funds, special ordinances are adopted each spring and fall by the City Council, covering the amounts that it is estimated will be required to meet the costs of mechanical street cleaning and flushing during the summer months and of snow plowing and removal during the winter months. At the expiration of each period, the actual costs are compiled and assessed on a front-foot basis against the properties benefited. The cost of hand cleaning and leaf and spring débris removal is paid from budget funds. It is possible by this method for the Maintenance Section to furnish the measure of service which the public of the city of Rochester demands.

The comparative costs for the year 1940 are of interest and may be stated approximately as follows:

Fund	Street Cleaning	Snow Plowing and Removal
Budget	$90,300	
Assessment	118,750	$338,000
Total	$209,050	$338,000

"I Am an American" Day

To the Editor of THE AMERICAN CITY:

At no previous time in our history has American citizenship meant so much to so many people. There are more American citizens today than there ever have been. There are also more reasons today for taking pride in the privileges that American citizenship implies. It is quite appropriate, therefore, that "I Am an American" Day, which has been designated as May 18 this year by Presidential proclamation, be made an occasion on which American citizenship is celebrated as it deserves to be.

Directly, "I Am an American" Day affects two large groups in our population, numbering more than two-and-a half million. One group consists of native-born young men and women who have achieved citizenship in the past year by reaching their twenty-first birthday; the other group consists of foreign-born persons who have become American citizens during the past year through the naturalization process. Actually, "I Am an American" Day affects all of us, for it brings home the value and responsibilities of our citizenship and gives us an opportunity to welcome the new citizens.

Municipal officers and local civic organizations can do a great deal to make each community celebration a successful one. Although the Department of Justice, of which the Immigration and Naturalization Service is a part, is doing what it can to encourage observance of the occasion, all celebrations and ceremonies are being arranged by local officials and representatives of local clubs, patriotic organizations, fraternal societies, schools, and other groups that play an important part in the community. If there is no "I Am an American" Day committee in some of the communities where readers of this magazine reside, steps should be taken immediately to organize one that will insure appropriate ceremonies.

Because municipal officials are elected, or appointed by those who have been put into office by the community, it is logical that such committees be initiated by municipal officers, in communities where no committee has been set up. These committees, representing various sections of the local population, can be most effective in organizing meetings and celebrations that will express the true spirit of the day.

Efforts should be made to engage the participation of as many new citizens as possible. American citizenship represents a milestone in their lives, and the beginning of responsibilities as members of the Nation's electorate. "I Am an American" Day should be celebrated as a day for them and by them.

JAMES ALLEN,
Special Executive Assistant to the Attorney General.

Washington, D. C.,
April 12, 1941.

Water-Works Operation in a Summer Metropolis

Barnstable Water Co. Consumers Increase Ten Times in Summer, to 60,000, in Hyannis, Mass., District

WHEN we dropped in to visit the water works at Hyannis, Mass., last summer, we were told that George Palmer, the Superintendent, was moving a hydrant on Winter Street. We found a very active gentleman hustling around the excavation directing the hard-working water-works crew. A few minutes later, Mr. Palmer told us he is 85 years old, has been 30 years with the Barnstable Water Co. at Hyannis, and for 22 years prior to that was with the Attleboro, Mass., Water Department.

The job of the day was removing an old hydrant and setting a new Eddy hydrant 28 inches back of the new concrete curb being installed by the Town Highway Department as part of its street-widening program. The ground in Hyannis being all sand, the water from the cut in the main would have seeped away, but shut-downs cannot wait for seepage, so an Edison diaphragm pump, mounted on a 2-wheel trailer with 30 x 3½-inch Air Cell tires, was used to unwater the hole. Then the new hydrant was set with joints made up with Hydrotite and the hole back-filled.

The Supply

The water supply is secured from 24 shallow wells at No. 1 pumping station, and 35 wells at No. 2 pumping station. These wells vary from 25 to 30 feet in depth and are all 2½-inch wells.

No. 1 pumping station, known as Mary Dunn Station, because of its location on a road of that name, is on the northwest side of town and contains two DeLaVergne semi-diesel oil engines direct-connected to two Platt Iron Co. triplex direct-acting pumps with 12-inch bore and 12-inch stroke. No. 2 pumping station on the north side of town contains a 120-hp DeLaVergne 16 x 24-inch engine, direct-connected to a 12-inch bore and 24-inch stroke Gould triplex pump and a Rumsey 12 x 14 pump. These pumping stations are operated 12 to 24 hours per day each in summer and 12 hours per day each in winter.

George Palmer, Superintendent, Barnstable Water Company

Communities Served

The winter population of the communities served by the Barnstable Water Co. is about 5,700 people, while in summer this same district has a population of 60,000. The communities served are all in the town of Barnstable and include Hyannis, Hyannisport, West Hyannis, South Hyannis, and Hyannis Park.

The average pumpage is about 200,000 gallons per day throughout the year, with a maximum of 1½ mgd in the hottest summer weather when the population served is the greatest and the lawns of many of the estates are being sprinkled.

A Search for Reborn Communities

Do You Know One or More?

A JOINT project under consideration by one of the national radio networks and a great university would afford a unique opportunity to publicize outstanding achievements in the field of civic rehabilitation. A series of broadcasts on "Communities Reborn" would aim to inspire lethargic communities to new life by picturing other communities worth emulating.

If any readers of this magazine can turn the light on a city, town or village which has been changed in form and features, in fiber and quality of civic structure, because of new spirit and purpose that are revitalizing it throughout, such an instance should be illuminated that it may be widely seen. No such community has of course become perfect, but in those for which a search has begun constructive forces must be predominating under impetus from new organization, effective citizen cooperation, or individual, inspired, heroic leadership. Responses to this call for information may lead to wide public good.

Letters may be addressed to the Editor of THE AMERICAN CITY, 470 Fourth Avenue, New York, N. Y.

"Our Local Government Works for Us"

This script was written by Karyl Kanet Chipman, staff writer of Wisconsin's state-owned radio station WHA, for the Wisconsin School of the Air. THIS OUR DEMOCRACY, the citizenship education series of which this program is a part, is received in their classrooms by some 16,000 Wisconsin boys and girls in the upper grades and junior and senior high school. It is aimed at producing a better understanding and a heightened appreciation of the democratic nation to which these young people belong.

Now in its tenth year, the Wisconsin School of the Air reaches out from the capital city, to bring expert teaching talent as well as drama and music of high quality into the most remote of Wisconsin's schools.

CAST:

Narrator
Bill Adams—American boy, high school age
Youth—blasé spectator at a fire
Jeweler—old man, wounded (BIT)
Policeman—(BIT)

SOUND:

Door slam
Footsteps on floor
Telephone—removed from hook; jiggling of hook
Footsteps on street
Fire-engine siren
Hook-and-ladder truck
Scuffle—two men fighting
Police siren

MUSIC:

Themes to open and close
Ominous background
Agitated, under fire scene

ANNOUNCER: The Wisconsin School of the Air presents—This Our Democracy!

MUSIC: *Opening theme up and out*

ANNOUNCER: We enter the classroom of the boys and girls with whom we've been studying the meaning of democracy, to hear another in this series of programs planned to aid in teaching citizenship. And again we meet their adviser, Professor Gordon McDonald.

NARRATOR: Hello, boys and girls. Do you remember Bill Adams—the boy who thinks dictatorship might be better than democracy because he's heard that it's more efficient? Last week Bill and I had a talk about whether government ought to be our master or our servant, you remember. . . . And I promised to show Bill how our American governments work for us, starting with the one nearest home. Well, Bill came in to see me again (*fade*) and we were talking. . . .

NARRATOR: What would you call the most important part of the surroundings of your life, Bill?

BILL: Why—home, I guess, Professor McDonald.

NARRATOR: All right—if home's the most important part of your environment, Bill—what's the next most important?

BILL: School, of course.

NARRATOR: And does your father pay the school for teaching you?

BILL: Why, of course not! I go to public school! (*Chuckle*) I guess I wouldn't be going to school at all, if my Dad had to pay for the whole thing. He doesn't make so very much money.

NARRATOR: But money or no money—you're going to school. Is it a good school, Bill?

BILL: (*Enthusiastic*) I'll say! We're lucky at Grant School! It was just built a couple of years ago, and it's got everything! The best gym you ever saw . . . and a good science lab . . . and a big library . . . and—

NARRATOR: Then certainly *there* is the most important thing your local government does for you, isn't it, Bill? Providing you with a school like that . . . with good, highly trained teachers to help you learn . . . with a competent principal to keep things running as they should be. That costs money—a great deal of money, Bill—but nobody asks how much money your father makes, before they let you in. Rich or poor, you're *required* to go to school. Of course, not all young people have as fine a school to attend as you—but it is still their privilege to be taught. And they're not kept out (here in this state, at any rate) no matter *what* race, or creed, or class, they belong to . . . I say that because in the land of the Nazis, some children—particularly Jewish boys and girls—frequently aren't permitted to go to school with the others.

BILL: I think that's awful! . . . But I never thought about the local government paying for me in school!

NARRATOR: It pays most of the cost and it's responsible for running your school. Your state and Federal governments help. But about a third of all the money this city collects and spends goes into providing education for its children and young people. Think that's a good way to spend money, Bill?

BILL: Oh, sure! Nobody'd want to complain about *that!*

NARRATOR: (*Dryly*) Well, there are a few people who do complain about it. . . . But let's return to your home, Bill. What's it like?

BILL: (*Surprised*) You know—you've been there!

NARRATOR: I know—but tell me anyway.

BILL: Well, it isn't very big. . . . And it's made of stucco, outside. . . . And it's got a yard in front and a garden in back. . . .

NARRATOR: It's on a very pleasant street, isn't it?

BILL: Oh, I guess the street's all right. It's got plenty of trees and grass. . . . And there's a traffic light at the corner, where it crosses the boulevard.

NARRATOR: And there's a big park just a few blocks away.

BILL: Yes, there is.

NARRATOR: All of which adds up to a pleasant neighborhood, as well as a house one could enjoy living in.

BILL: Oh, we do—we like it, all right.

NARRATOR: Now, when your father and mother decided upon that house, they bought the lot, and then they built on it the house they wanted and could afford. But in the price, they got something they didn't buy from either the previous owner of the land or the contractor who built the house.

BILL: What was that?

NARRATOR: Why, the fine neighborhood . . . the good, well-cared-for streets . . . the park nearby . . . the traffic control that makes crossing that boulevard safe even for your little sister. . . . These things they got by reason of being part of this city, didn't they?

BILL: (*Thoughtful*) Why, yes—I guess they did.

NARRATOR: It's your local government that takes care of providing and maintaining the street you live on, Bill. In the summer it keeps your street clean, and the trees on it trimmed and healthy. In the winter it clears away snow, so that cars can use it. The city takes care of lighting your street . . . and of controlling traffic on it. And to protect your neighborhood, the city has *zoned* it.

BILL: What's that?

NARRATOR: In your particular neighborhood, home-owners like your father want to keep it for home use only. And so the city government doesn't permit anyone to build a factory, for instance, near your house.

BILL: Oh, yes—I remember what a fight there was when the man who owns the land where our street and Lincoln Boulevard come together, wanted to have a filling station put on the corner!

NARRATOR: That's what I mean. What happened?

BILL: The gasoline company offered him a lot of money, my father said—but the zoning laws didn't let him take it. He had to back out of the deal. And Dad says he was furious about it.

NARRATOR: Suppose, Bill, that some day you come home from school to find no one at home. You go into the house—and you smell smoke. You try to trace it down. And then as you open the door to the cellar—a little tongue of flame licks up at you. (*Fade*) This is about what you'd do then, isn't it. . . .

MUSIC: *Ominous; start in B.G. and fadeout under*

SOUND: *Door slam*

BILL: (*Agitated*) Oh, gosh—what'll I do? What'll I do? I'll turn in the alarm. . . .

SOUND: *Footsteps running on floor, up and stop, telephone removed; frantic jiggling of hook*

BILL: Operator! Operator! Fire! There's a fire at my house! . . . Gee whiz—I can't get the operator! . . . somebody's using our line! . . . What'll I do? . . . I know! There's a fire-alarm box over in the next block!

SOUND: *Door slams; footsteps running on street, into*

MUSIC: *Agitated, brief interlude; fade under*

SOUND: *Fire-engine siren fade up fast, then clang of hook-and-ladder*

VOICES: (*Ad lib comment*) "Fire! Fire!" "Look out for that hose, there!" "Whose house is it?" "It's Bill Adams' house. Hey, Bill!" "Looks as if they're getting it under control!" *Etc.*

YOUTH: (*Disappointed*) Aw—it's all over! That wasn't much of a fire! The engines got here so fast—it didn't get a chance to get a real start!

MUSIC: *Up and out*

BILL: Golly—I'm glad that isn't real! I'd hate to have our house on fire!

NARRATOR: Yes—but if such a thing did happen, Bill—and of course there's always the chance of fire—your home would be protected by your city government. Behind that fire-alarm box is an efficient organization of men, supplied with modern fire-fighting equipment. Before you'd believe it could be possible, the fire chief would be there, to take charge of the job of saving your home. Firemen would be fixing hose to the hydrant on your block, and water would be pouring in, to smother the flames. . . . Of course that's not the only way the city protects your home and you, Bill.

BILL: Oh, sure—I know! You mean the police.

NARRATOR: That's part of what I mean. I think you know what the police do for you, and the rest of us who live and work or visit in this city. They—

BILL: (*Interrupts, eager*) Oh, say—I saw a hold-up yesterday!

NARRATOR: You did—!

BILL: Yes. I was going to the drug-store for my Dad, after supper. . . . And as I was passing the little jewelry store a couple of blocks from it, the door sort of burst open, and a man came running out. I didn't get much of a look at him as he beat it up the street, because just then another man—an old man—came staggering to the door . . . (*No pause*)

JEWELER: (*Weakly calling, under*) Police! Police! Oh, why isn't there a policeman! Help me! Police! Robbers!

BILL: . . . And I think he'd been hit on the head with something, 'cause there was blood on his face. . . . And he kept calling for a policeman. I didn't know what to do, to help . . . but I started running after the hold-up man. And I saw him throw away his gun. And just then a policeman came from the other direction—and that robber almost ran right into his arms!

SOUND: *Scuffle; two men fighting; heavy breathing*

POLICEMAN: Hah! Got you!

SOUND: *Police siren fadein under, up on cue and out at end*

BILL: . . . And I guess somebody'd called the police-station, or something, 'cause first thing I knew, there was the police-car, with a couple of officers piling out of it. And then they took the hold-up man away, and an ambulance came, and it took the old man off to the hospital!

NARRATOR: Whew! That was an adventure you had!

BILL: I'll say it was!

NARRATOR: You certainly saw our city police system in action, Bill! Well—it isn't always as exciting as that, even for the policeman. But twenty-four hours a day, day in and day out, the police department is on duty, guarding the city against criminals . . . patrolling its streets to keep them safe . . . helping people in trouble . . . controlling traffic. You know, Bill—policemen nowadays have to be well-educated and trained, most of them . . . because that too is becoming a job for specialists. But besides these services of fire and police departments—do you know any other ways in which your local government protects you?

BILL: I don't think of any, offhand.

NARRATOR: What about its protection of your health?

BILL: (*Somewhat doubtful*) Oh?

NARRATOR: There's the city health department, with a specially trained doctor at the head of it. Busy guarding against epidemics . . . seeing to it that the milk supply is pure and wholesome . . . providing medical care for poor people. I wish we had time now, Bill, to look over the City Hospital. Or to watch one of our public health nurses at work, making her rounds to bring medical help to households that need it . . . introducing brand-new parents to the mysteries of how to take care of their babies . . . examining children's throats and ears at school . . .

BILL: I'll bet it would be interesting!

NARRATOR: It certainly would. And it'd be interesting to find out how the city collects and disposes of garbage . . . and how it manages the big problem of getting rid in a safe manner of the sewage . . . and how it supplies water to a city this size. Ever think of what's behind the faucet, when you turn it on to get a drink or take a bath?

BILL: I don't believe I have.

NARRATOR: Well, back of that faucet you turn on with a simple little twist of your wrist is an impressive organization, Bill, of men and machinery. There's careful planning and devoted loyalty. There's twenty-four-hour-a-day service, delivered so smoothly and efficiently and courteously that you aren't even aware it exists. You just take it for granted that when you turn a handle, water'll come out—and you aren't disappointed. You know it'll be pure water; that's something you don't have to worry about or tend to for yourself. . . . And there's another thing: What about your fun? . . . your recreation? Isn't much of that made possible by your local government?

BILL: Well—I guess maybe it is! I use the tennis courts in the park . . . and I swim at one of our beaches in the summer . . . and skate on the lagoon. . . .

NARRATOR: And there are plenty of other things. . . . Think about all the trips you've made, over the fine roads of our county. . . . And your family makes good use of the public library, doesn't it? . . . And if you've been getting any airmail letters lately, you've been enjoying the benefits of your city airport. . . .

BILL: Golly! I didn't realize there are so many things the city government does for us!

NARRATOR: More than we've mentioned, Bill. But we do take them for granted, most of us, and complain because they have to be paid for in taxes. . . . You were talking about the efficiency of those dictator governments, Bill, when you came in. Efficiency! Why, these services of our local governments are so efficient that we accept them, use them all the time, in our daily living—and never even know they exist, most of us! Why? Probably because they grew up in a democratic way, in response to our needs. And most of the time they're handled in a democratic way, as well. They're carried on for us by competent men and women whom we ourselves employ. These people—and most of them are experts in their own fields—*they* don't lord it over us. Nobody gets shoved around by them, in return for their services. No American has to give up his liberty, in order to enjoy the protection and services of these agencies of our government.

BILL: I'll tell you what I'm going to do, Professor McDonald. I'm going to see if I can't get our class to visit a few of them. Gosh! I'd like to see the water works . . . and how the fire-fighting service is organized . . . *(fade)* and how the police department operates . . . and . . .

NARRATOR: Well, boys and girls—I think Bill Adams had a good idea there, don't you? Why don't *you* do the things he suggests? Look around your own community . . . and see how *your* local governments serve you. If you live in the country, you won't find as many kinds of services as Bill Adams is going to . . . because he lives in a crowded city, where government has to do a great deal more for its people. But you'll find plenty of very interesting activities, I know. . . . And then write me about them, won't you? . . . We're not going to have our honor roll *today*, for the best three-word motto for Americans. Many of you sent in fine ones, but some are still coming in, and I want to be sure they're all here, before we decide on the best ones. But next week, be sure to be listening, to see if your school is named as one that sent a winner. . . . And we'll be going on then, with Bill Adams, to learn more about how our democratic governments work for us. . . .

ANNOUNCER: Professor McDonald and the class studying democracy will be with us again at the same time next week, to bring us the next program in this series called This Our Democracy. These broadcasts are prepared to aid in teaching citizenship, in the schools. They're planned and written by Karyl Chipman, and presented by Gerald Bartell and the WHA Players. . . . This is the Wisconsin School of the Air.

MUSIC: *Closing theme to fill.*

Conservative Opinion on Public Housing

WHEN the public housing movement began to show results during the depth of the depression, it was tolerated by conservative opinion as an unemployment relief measure preferable to the dole. Its humanitarian appeal was accepted here and there, but competition with private enterprise was feared.

Then came gradually a growing alarm among leaders in business and finance at the rapid spread of blight and slums, and awareness of the economic importance of eradicating these festering spots from the city map. Realization came also of the fact that so-called public housing is mostly private enterprise anyway: land bought from private owners; buildings designed by private architects and built by private contractors, with materials furnished by private manufacturers and with labor performed by artisans working for private industry.

Even the financing of public housing projects is becoming increasingly attractive to private capital. The following paragraphs from a 1941 pamphlet entitled "Local Housing Authority Bonds," of the investment banking house of Harvey Fisk & Sons, Inc., are significant in this connection:

"For many years, public-spirited citizens and charitable organizations have viewed with increasing concern the prevalence of slum areas and sub-standard living conditions in many centers of large population throughout the nation. Gradually, public opinion has been aroused against these blots upon our modern civilization. . . .

"A study of the United States Housing Act and the program developed under its provisions reveals a threefold accomplishment: first, a safeguarding of the manner in which these important Federal funds are expended; secondly, the creation of a virtual partnership between private capital and government in this field of finance; and, finally, the alleviation of a great social problem. Well within the means of a great democracy that can afford to prosecute such a work, surely an investment in the well-being of so many citizens of our nation must have an economic as well as a humane justification."

The extent to which service as members of local housing authorities is attracting men active in the business and industrial life of the communities, is indicated by an analysis published in a recent issue of *NAHO News*, the bulletin of the National Association of Housing Officials. Of 909 housing authority members tabulated, the occupation classifications are:

Occupation	No.	Per Cent
Business, Banking and Industry	436	47.9
Professions	181	19.9
Wage Earners and Labor Officials	110	12.1
Farmers and Farm Organization Officials	51	5.6
Public Officials	42	4.6
Civic Association Officers and Leaders	17	1.8
Miscellaneous	72	7.9

In this group only 3.9 per cent of the chairmen and 4.6 per cent of the members are public officials; no chairman is a social worker, and only 5 members are so engaged.

140 Metropolitan Area Reports on Population and Housing

WITH REPRODUCTIONS OF SEVEN TYPICAL MAPS from the metropolitan district reports on population and housing for 1940, now being released by the Bureau of the Census, THE AMERICAN CITY published (on page 5 of the April issue) a list of cities for whose areas it was understood that such reports had been issued or were forthcoming.

THE AMERICAN CITY's attention has now been called to the fact that this list of 60 cities was not the complete metropolitan area list, but covered cities for which census tract data are also being issued.

The following is the complete list of metropolitan areas—140 in number—for which reports and maps are being issued by the Census Bureau.

Akron, Ohio
Albany-Schenectady-Troy, N. Y.
Allentown, Bethlehem-Easton, Pa.
Altoona, Pa.
Amarillo, Texas
Asheville, N. C.
Atlanta, Ga.
Atlantic City, N. J.
Augusta, Ga.
Austin, Texas
Baltimore, Md.
Beaumont-Port Arthur, Texas
Binghamton, N. Y.
Birmingham, Ala.
Boston, Mass.
Bridgeport, Conn.
Buffalo-Niagara, N. Y.
Canton, Ohio
Cedar Rapids, Iowa
Charleston, S. C.
Charleston, W. Va.
Charlotte, N. C.
Chattanooga, Tenn.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Columbia, S. C.
Columbus, Ga.
Columbus, Ohio
Corpus Christi, Texas
Dallas, Texas
Davenport, Iowa-Rock Island-Moline, Ill.
Dayton, Ohio
Decatur, Ill.
Denver, Colo.
Des Moines, Iowa
Detroit, Mich.
Duluth-Superior, Minn.
Durham, N. C.
El Paso, Texas
Erie, Pa.
Evansville, Ind.
Fall River-New Bedford, Mass.
Flint, Mich.
Fort Wayne, Ind.
Fort Worth, Texas
Fresno, Calif.
Galveston, Texas
Grand Rapids, Mich.
Greensboro, N. C.
Hamilton-Middletown, Ohio
Harrisburg, Pa.
Hartford-New Britain, Conn.
Houston, Texas
Huntington, W. Va.-Ashland, Ky.
Indianapolis, Ind.
Jackson, Miss.
Jacksonville, Fla.
Johnstown, Pa.
Kalamazoo, Mich.
Kansas City, Kans.-Kansas City, Mo.
Knoxville, Tenn.
Lancaster, Pa.
Lansing, Mich.
Lincoln, Nebr.
Little Rock, Ark.
Los Angeles, Calif.
Louisville, Ky.
Lowell-Lawrence-Haverhill, Mass.
Macon, Ga.
Madison, Wis.
Manchester, N. H.
Memphis, Tenn.
Miami, Fla.
Milwaukee, Wis.
Minneapolis-St. Paul, Minn.
Mobile, Ala.
Montgomery, Ala.
Nashville, Tenn.
New Haven, Conn.
New Orleans, La.
New York-Northeast New Jersey
Norfolk-Portsmouth-Newport News, Va.
Oklahoma City, Okla.
Omaha, Nebr.-Council Bluffs, Iowa
Peoria, Ill.
Philadelphia, Pa.
Phoenix, Ariz.
Pittsburgh, Pa.
Portland, Maine
Portland, Ore.
Providence, R. I.
Pueblo, Colo.
Racine-Kenosha, Wis.
Reading, Pa.
Richmond, Va.
Roanoke, Va.
Rochester, N. Y.
Rockford, Ill.
Sacramento, Calif.
Saginaw-Bay City, Mich.
St. Joseph, Mo.
St. Louis, Mo.
Salt Lake City, Utah
San Antonio, Texas
San Diego, Calif.
San Francisco-Oakland, Calif.
San Jose, Calif.
Savannah, Ga.
Scranton-Wilkes-Barre, Pa.
Seattle, Wash.
Shreveport, La.
Sioux City, Iowa
South Bend, Ind.
Spokane, Wash.
Springfield, Ill.
Springfield, Mo.
Springfield, Ohio
Springfield-Holyoke, Mass.
Stockton, Calif.
Syracuse, N. Y.
Tacoma, Wash.
Tampa-St. Petersburg, Fla.
Terre Haute, Ind.
Toledo, Ohio
Topeka, Kans.
Trenton, N. J.
Tulsa, Okla.
Utica-Rome, N. Y.
Waco, Texas
Washington, D. C.
Waterbury, Conn.
Waterloo, Iowa
Wheeling, W. Va.
Wichita, Kans.
Wilmington, Del.
Winston-Salem, N. C.
Worcester, Mass.
York, Pa.
Youngstown, Ohio

PHOTOGRAPH BY ALASKA STEAMSHIP CO.

The Metlakatla Settlement on Annette Island

Indian Community Thrives in Picturesque Alaska Setting

By Will Hatteroth

FIFTY-TWO years ago a group of 800 Metlakatla Indians of British Columbia, through their leader, Father William Duncan, an English missionary, obtained permission of the United States Government to settle on a group of small uninhabited islands off the southeastern coast of Alaska, in area about the size of New York City; and in 1891 Congress enacted a law permanently reserving the islands for colonization by this group of refugee Indians.

The controlling reason for their desire to leave British Columbia was friction between the Indians and the resident Bishop of the English Church concerning the form of church service for the Indians—Father Duncan having inaugurated and carried on a simple service. The Indians, who were sincerely attached to Father Duncan, sided with him, while the Church Mission Society in England supported the stand taken by the Bishop.

On August 7, 1887, the refugees' exploring party, headed by Father Duncan, landed on Annette Island, and the American flag was hoisted for the first time on that shore. Tents were set up by the exploring party, and one of their number was sent back to British Columbia to summon the remaining members of the group and to pilot them to their new home.

After temporary log huts were erected on Annette Island the men returned to British Columbia and brought to their new home their women and children with the few possessions they were permitted to take. There were no houses, barns, or squads of WPA labor awaiting them. They built their town, their homes, their church, school, municipal hall and cannery with timber and rock found on the island, and by their own labor and the savings from their earnings as fishermen.

The Metlakatla settlement was based primarily upon industry instead of agriculture,—upon industry which utilized all available natural resources found on the island,—wood, fish, furs and hydroelectric power,—and these pioneer Indians produced boats, furniture, barrels, rope, canned fish, clothing, soap and many other salable commodities. The town of Metlakatla made a net profit of approximately $400,000 during the last five years, derived mainly from the salmon industry. Former Mayor Roderick F. Davis recently made the following statement in connection with the finances of the town:

"We soon found that the money we earned through fishing was more than we needed, so we began to spend it on modern improvements. We bought a hydroelectric plant. We installed electric heat and light; then all sorts of modern equipment. Now we have the only municipal hall in Alaska. It cost $60,000. We have a 60-piece band. We play baseball, basketball, everything you do. It was all paid for with the profits from the cannery. The U. S. Government gave us a start and we have carried on. The only thing the U. S. does entirely now is to educate us."

Not only is the municipality prosperous, but the inhabitants are equally so. Most of the families own motor-boats valued at from $2,000 to $20,000. Nearly every family owns a comfortable home, many of two stories, in most of which are pianos or organs. The people are well clad; the hats of the younger women look fresh from city millinery stores. There are no problems of crime or unemployment or relief in Metlakatla,—and the achievements of this Christian Indian community stand as a challenge to people of any race or color.

Quality—Not Quantity—Sought for New Water Supply

Wichita Secures Softer, More Palatable Water from New Wells 33 Miles Distant from City

By Leo W. Allman
Director, Department of Journalism,
University of Wichita

THE IDEAL of soft water dreamed of by citizens of Wichita, Kans., for seventy years became a reality in the fall of 1940 with the inauguration of a new $2,425,000 water system built by the city with a PWA loan and grant. Unlike the problem of water supply in many cities, the chief factor in Wichita was not greater quantity. The old water supply was adequate and never failing. The new supply was constructed to provide better quality, not quantity, of water.

The new water is most satisfactory to this southwestern city, for it has a hardness of 130 ppm, all of which is carbonate or temporary hardness and may be removed by boiling. The old water had a hardness of 370 ppm, one-half of which hardness was non-carbonate and therefore permanent and scale-forming.

In addition, the new water has a much better taste, and is greatly superior for industrial uses, as well as for lawns and shrubs. Part of the improved taste is due to the fact that the new water contains only 25 ppm of common salt as chlorides, whereas the old water sometimes contained 490 ppm of such chlorides. The maximum permitted by the U. S. Public Health Service in water for domestic use is 250 ppm.

Supply Distant from City

Whereas the old water supply was close to the city, coming from 54 wells located between the Little and Big Arkansas Rivers about one mile from the business district, the new water supply comes from 33 miles away. That meant expensive pipe; in fact, 27,000 tons of pipe costing more than $1,000,000 had to be laid. The source of the new supply is the equus beds in Harvey County, north and west of Wichita. Geologists and experts in subsurface water supplies estimate that this supply of water is practically inexhaustible.

Slight Rate Increase

For Wichita consumers the new water supply has added very little in extra costs. The old water rates are continued, but all bills since October 1, 1940, contain a surcharge of 15 per cent. This addition to the bill is being collected by the Wichita Water Co. and remitted in full to the city to be used to pay off the bond issue of $1,333,650 which was voted by the citizens for the project, and to defray the cost of operating the new wells. In addition, the water company agreed to pay the city $7,380 a year, since it no longer is required to pump from its own 54 wells but only delivers water to the consumers through its distribution system after the water has been pumped by the municipality through the new 33-mile pipe line.

Work on the project was begun October 24, 1939, and the last pipe was laid on July 3, 1940. Soft water reached the consumers' faucets about the first of September, and the whole new water supply project was formally dedicated on September 29, 1940.

Subdivision Control Outside City Limits

THE Public Administration Service has recently published a study of land subdivision control practices, by Harold W. Lautner, entitled "Subdivision Regulations," which includes an analysis of the control cities exercise over subdivisions outside their limits. (See page 107.) Of the 196 communities studied, 100 regulate subdivisions beyond their limits. Of these, 53 cities extend control 3 miles beyond their boundaries; one city for as much as 10 miles. The distance for other cities varies between these limits. Even should surrounding urban territory remain outside the political boundaries of a city, it is to all intents and purposes a part of the city, the study states. "Highways with their loads of automobiles do not miraculously terminate at invisible municipal boundary lines. Disease, fire, and criminals are no respecters of such boundaries. Therefore, if a city is to exercise land subdivision control it must be able to regulate not only within its city limits but also in its environs."

Most states have established a uniform distance beyond the corporate limits within which their cities may control land subdivision, because it is difficult to set up an outside area of control for each individual city based on size, highway and mass transportation facilities, topography and customs. For example, North Carolina extends control one mile beyond city limits, as does Iowa for cities with a population of 25,000 or over.

First-class Minnesota cities having 35 per cent of land unplatted are given control of three miles of surrounding territory. The sphere of control extends for five miles outside Virginia cities of over 150,000 population; 10 miles for cities of over 100,000; three miles for cities under 100,000; and two miles outside any incorporated town. The study suggests that with the advent of automobiles and good roads with accompanying urban growth beyond corporate limits, five miles beyond the city limits probably is the minimum desirable distance of control, if one determination is to be made for all the cities of a state.

The Neck of the Fire-Water Bottle—

Fire Hose

THE day's news contains no assurance for any but the courageously prepared. Peace will come. Many peaces will come. But the old conception of peace will not soon be realized again—wireless and aviation have seen to that. There are no remote lands any more. Europe, Asia and America are face to face.

The primary military purpose of the airplane in modern war—not necessarily the present wars—is to destroy the morale of the civilian population. That means that if the United States should be attacked, the large population centers of this country must expect to be showered with heavy and incendiary bombs. London is filled with lessons on what will be needed. The words can be said at once:

Volunteer or conscripted firemen
Adequate fire-alarm system
Dependable fire apparatus
Additional fire apparatus
Trustworthy hose

Those are the words. What will be done about turning them into the things they represent? One city official says: "When the Federal Government starts building bomb shelters, we'll start equipping the fire department."

There may not be time then, and the Federal Government may expect the cities to build their own bomb shelters. New York's are said to be the skyscrapers, already built.

If war comes to the United States, nothing is more certain than that fire will come. When fire comes, given water and pressure, hose is the necessity. England has bought millions of feet of fire hose in the United States. Having quantities of hose available is one reason why so many news dispatches state that "the fire was quickly extinguished."

All kinds of hose are used, including quantities of linen hose because of its light weight and ease of handling.

PHOTOGRAPH BY COURTESY OF FIRE COMMISSIONER WILLIAM ARTHUP REILLY, BOSTON, MASS.

Defense Display at Boston

No city would make a mistake in putting in reserve all its standard fire hose over five years old. This is the regular fire-department cotton-jacketed rubber-lined fire hose. It is produced by a dozen manufacturers in a number of grades and brands.

Even a superficial knowledge of the chemistry of rubber and the manufacture of fire hose will convince anyone that there can be any number of qualities. Yet there are few instances of a cared-for manufacturer's brand failing. Failures do occur in hose that has been damaged or improperly cared for.

Fire hose is purchased by cities by four methods: (1) on the reputation of the manufacturer; (2) on experience; (3) on specification; (4) on the label of Underwriters' Laboratories. Most if not all specifications are based on the Underwriters' specifications. Another famous specification is maintained by the American Society for Testing Materials, covering 1½- to 2½-inch hose.

All these specifications cover: (1) the construction of the hose, the rubber lining and cotton jackets; (2) the materials—the cotton and the rubber; (3) physical tests; (4) chemical tests of the rubber.

There is one subtle factor which no specification can do more than ask for. It is workmanship. The A.S.T.M. specification says in its Article 16:

"The character of the workmanship shall be such as is incident to good manufacturing practice."

Give three housewives the same recipe, and the resulting dishes may be quite different; all will be edible. So with making fire hose. The leading manufacturers use the Underwriters' or A.S.T.M., or city, specification when desired. They also make brands of fire hose to their own recipes. Many of these recipes have proved their dependability.

The importance of quality was recently stressed in the reports of several city purchasing agents made to the Research Department of the city of Houston, Texas, as follows:

"Where there is a known difference in quality, price is not an important factor," says T. S. Wiley, of Omaha, Nebr.

"For the past five or six years we have been buying Underwriters' hose altogether," writes Purchasing Agent L. A. Walker, of Atlanta, Ga.; "but this year the Chief of the Fire Department insisted that we buy a better grade of hose in the future, as he was not willing to be responsible for using the cheaper grade; and that is our reason for getting away from Underwriters' Label."

Says Gordon Hollingsworth, of Memphis, Tenn.; "We are thoroughly sold on the idea that 3-ply multiple woven jacket hose is well worth the money. Cheaper 2½-

inch hose bought last year at 65 cents has not proved satisfactory . . . acid from the rubber causes the cotton jacket to deteriorate and burst."

"Consideration was given to price on last purchase by the Board of Purchases, but from my personal experience of 27 years, I certainly would never give consideration to price above quality on the purchase of materials so necessary to extinguishment of fire and saving of life."—E. P. Welch, Columbus, Ohio.

"The highest quality of any manufacturer is all that is considered," says Earl Beeler, Denver, Colo.

"Price is of secondary importance in the purchase of this type of equipment. Quality and experience should outweigh nominal difference in price."—H. A. Maltby, Dayton, Ohio.

"We buy for a quality always above price," says C. R. Simpson, Corpus Christi, Texas.

"Quality of hose always is the main factor when making a purchase," says L. A. Baumhaver, Portland, Ore."

The most recent purchases by 30 large cities, totaling 213,500 feet of fire hose of some 28 brands of 14 manufacturers, were made on the following bases: two cities bought 31,500 feet on U. S. Government specifications; three cities bought 30,000 feet without specifications; nine cities bought 58,200 feet on Underwriters' specifications; fifteen cities bought 93,800 feet on own specifications.

The quality of the best hose, like that of a house of excellent construction, is not a mystery. The hose can be cut open and compared with another grade of hose. The relative durability of the cotton and rubber materials cannot be fully measured,—time does that,—but the amount of the materials, the number of plies, the series of warp and weft, the weaving excellences which make the fabric perfectly level and bind the plies into a homogeneous fabric, the twist of the threads themselves,—these are all visible in an examination of the jacket—which is the clothes and armor of the hose. How many plies has the rubber lining? Hose must not burst, yet it must be light and flexible, must not wear or abrade, twist or kink; must be proof against mildew, rotting, freezing, cracking; must age slowly and spring no unhappy surprises. Anything which must be resilient and flexible requires intelligence working in a background of long experience; it takes more than a recipe to produce it at its best; it demands the "feel" that comes from knowledge.

Hose does not fail often. But when it does, the results may be fatal. The difference in cost between high-grade hose and other grades is a negligible item in the total cost of a fire department. If war comes, with foreign flying fortresses over our cities, the meaning of cost will have disappeared entirely. Quality alone will remain. The cities would do well to build up their fire-fighting equipment—be it a 1,000-gallon pumping engine, a 100-gallon portable pump on trailer, or fire hose—on a quality basis. This does not mean waste money; it means be sure you buy the best and get it.

Health Contest Winners

The Annual City Health Conservation Contest, conducted by the U. S. Chamber of Commerce in cooperation with the American Public Health Association, has done much to stimulate municipal health departments in improving the work which they are doing.

The winners of the 1940 Health Contest, the cities whose names are placed on the National Health Honor Roll, are:

Baltimore, Md.	Honolulu, Hawaii
Evanston, Ill.	Madison, Wis.
Greenwich, Conn.	Memphis, Tenn.
Hackensack, N. J.	Newton, Mass.
Hartford, Conn.	Pasadena, Calif.

This Honor Roll does not mean that the cities appearing on it are necessarily the healthiest cities in the United States. It does mean they have been judged by a group of nationally known health experts, under the Chairmanship of Dr. W. S. Rankin, of Charlotte, N. C., to have provided the most effective community-wide health protection services for their people. In short, these are the cities which have organized on a community-wide basis to solve most effectively their own public health problems, such as water supply, sewage treatment, tuberculosis, syphilis, industrial hazards, maternal and child health problems, the provision of an adequate safe milk supply and many other public health essentials.

This is the twelfth year of the City Health Contest. Altogether, some 133 cities were enrolled this year, representing 35 states and the territory of Hawaii. The 1940 City Health Contest was financed by the Metropolitan Life Insurance Company.

City Manager Appointments

William B. Burns, Town Manager of Fort Fairfield, Maine, from March, 1936, until his resignation on January 14, 1941, was appointed Town Manager of Masardis, Maine, on April 2.

Robert J. Crichton, who has served as selectman for the past year, was selected Town Manager of Mars Hill, Maine, on March 28.

Richard E. Flanders, Auditor of Lincoln, Maine, from March, 1940, to January, 1941, and Acting Town Manager since that date, was appointed Town Manager on March 28.

George T. Gundry, former State Auditor General and Genesee County Clerk, became City Manager of Flint, Mich., on March 11, to succeed James R. Pollock, Manager since 1937.

W. N. Lambert, who has been Town Engineer for the past four years, has been appointed Town Manager of Bluefield, Va., effective April 15. Jack M. Baldwin resigned to accept a position as manager of a defense housing project.

Robert L. Plummer of Warwood, newspaper man and a member of the Wheeling Planning Commission, has been selected as Acting City Manager of Wheeling, W. Va., during the absence of Col. Walter C. Smith, who has been called for active army duty with the quartermaster corps at Atlanta, Ga., effective April 11.

V. R. Smitham, State Director of the Farm Security Administration, and former City Manager of Lufkin, Big Spring, and Wichita Falls, Texas, has been selected as chief administrative official by the City Council of Dallas, Texas, to take office on May 1, during the absence of City Manager James W. Aston, who left on April 15 for a year of active military duty.

Hunton Tiffany was appointed Town Manager of Manassas, Va., effective April 1, to succeed W. F. Cocke, who passed away on February 27; Mr. Cocke had been Manager since 1928.

Emery J. Toth has succeeded George Lazell as Manager of Big Rapids, Mich.

Henry L. Wagner, Bessemer City Engineer and Engineer with the Dickinson County Road Commission from 1931 to 1938, was appointed City Manager of Kingsford, Mich., effective April 1.

Clarence E. Ridley,
Executive Director, International City Managers' Association.

Low-Cost Improvement of a City's Dirt Streets

Bethlehem, Pa., Develops Organization and Methods to Efficiently Stabilize Base and Treat the Surface

By GEORGE H. REUSSNER
Director, Department of Streets and Public Improvements

ALL improvements to streets with first-class paving in cities of the third class in Pennsylvania are chargeable to abutting property owners on a front-foot basis. The depression caused many property owners in Bethlehem, Pa., as elsewhere, to be placed in a position where they were unable to pay their taxes or pay for street improvements, and consequently these improvements were necessarily suspended.

On January 1, 1934, there were about 150 miles of dirt streets in Bethlehem with a road area of about 1,600,000 square yards. Appropriations were cut to a minimum. The dirt streets were in bad condition, running from mud to dust. An extensive survey showed that it would cost about $1,000,000 to place the streets in first-rate condition, using tar penetration paving. Since the funds were not available, means had to be devised to give relief to the public from the nuisances of mud and dust.

Methods Considered

A recommendation was made to the City Council that a heavy dust-laying oil be applied to all the dirt streets, the oil to be of such a grade that in due course of time the streets would become stabilized or would have a surface mat. This process would eliminate the dust nuisance and give a smooth street for vehicular traffic. This recommendation was approved and funds were appropriated in the 1935 budget.

The other plan which was considered would have been to spread the work over a long period of years, improving certain streets each year. In this way a very small minority of the residents would be taken care of each year, while the far greater number of residents would have to endure unjust burdens until their particular block was reached.

Preparing the Base

In order to secure satisfactory results, the work was carefully planned and the men trained to perform their duties in an efficient manner. The crews we have trained in Bethlehem take great pride in their work, for they are anxious to make real progress. Many of the residents of the city have been amazed at the rapidity with which the work has been performed as well as by the results obtained.

The dirt street is first scarified to a depth of at least 6 inches, and large stones are removed. If there is too much clay in the material scarified, light cinder is mixed with it by a power grader. If, on the other hand, the material contains too much fines, such as sand and cinders, clay is added in the proper amount. A sprinkler truck is used to apply the required amount of water to the material, so that it can be properly bladed and rolled. The final blading brings the street surface to the adopted grade and crown. Then it is thoroughly compacted with a 12-ton 3-wheel roller.

When rolling is completed, Atlantic No. 45 asphaltic road oil is applied under pressure to thoroughly saturate the material and to penetrate to a depth of about 6 inches in the prepared base. Great care is taken not to use an excess of oil which would cause the surface to become flooded. The street is immediately opened to traffic, and under the action of rubber tires the surface becomes hard and smooth, giving much the appearance of an asphalt paved street.

Cities considering work of this type must exercise great care that the material of the roadway is properly proportioned between clay and fines, so that the proper amount of road oil may be applied and absorbed. We find that the most successful results result from starting the work in May, and only one application of the road oil is required per year. It takes from two to four years to completely stabilize the roadway base.

COST OF ROAD OILING

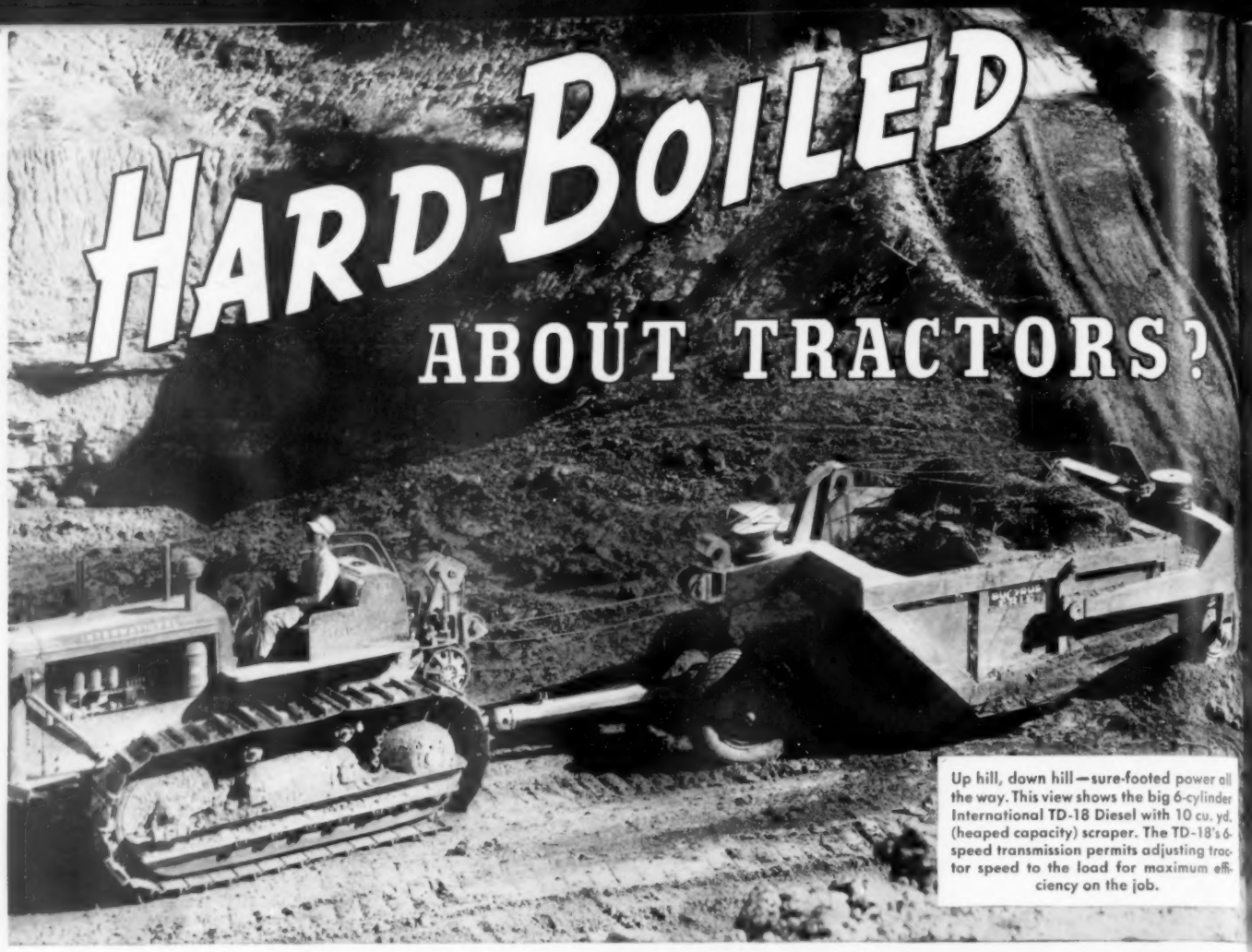
Cost of road oil	$0.017 per square yard
Cost of labor	0.008 " " "
Total	$0.025 " " "

Cost of road oil $0.072 per gal. applied
Labor, $0.50 per hour

Wearing Surface

When the roadway has become completely stabilized following several annual applications of the road oil, it is ready to receive an application of Tarvia Retread under pressure at a temperature of about 150 degrees F. Before applying the Tarvia the roadway is thoroughly cleaned, and patched where necessary with black top pre-mix. The tar is applied at the rate of from ¼- to ⅓-gallon per square yard, depending upon the condition of the roadway. Stone chips from ½- to ¾-inch screen size are then applied by backing a truck over the roadway with one man spreading the chips by adjusting the opening of the tail-gate of the truck. Following

HARD-BOILED ABOUT TRACTORS?



Up hill, down hill—sure-footed power all the way. This view shows the big 6-cylinder International TD-18 Diesel with 10 cu. yd. (heaped capacity) scraper. The TD-18's 6-speed transmission permits adjusting tractor speed to the load for maximum efficiency on the job.

Choose INTERNATIONAL DIESELS!

IF YOU'RE HARD-BOILED about tractor operation, International Diesel TracTracTors are your logical choice. Here are four husky crawlers that take the toughest dirt moving jobs in stride . . . built from the ground up to weather the stresses and strains of heavy construction work. And through it all they keep maintenance and upkeep costs low.

Get the benefit of these TracTracTor features: easy-starting *full* Diesel engines; replaceable cylinder sleeves; Tocco-hardened crankshafts; full-pressure engine lubrication; fast, easy gear-shifting; wide speed range; positive track alignment; comfortable seat and convenient controls; individual unit accessibility; well located mounting pads for attaching balanced allied equipment; and many others.

Turn your tough jobs over to International TracTracTors. See the nearby International Industrial Power dealer or Company-owned branch for details.

Ask for a demonstration.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago, Illinois

† "Works fine," says the operator of this TD-6 Diesel, owned by A. J. Diana, Massilon, Ohio. Shown here grading dirt to make new lawn.

5 NEW INTERNATIONAL INDUSTRIAL WHE TRACTORS—two with Diesel engines, three w carburetor-type engines. Ask for demonstrati

INTERNATIONAL Industrial Power

this, a crew of four goes over the roadway to see that the chips are uniformly distributed, doing such spotting as may be required with brooms. Care must be taken that the roadway is not over-chipped, as that will lead to dust nuisance. On the other hand, if there are not enough chips, the roadway will bleed. We have found that about 15 pounds per square yard is the amount of chips that will give the best results.

After the chips have been applied and spotted by hand, the roadway is dragged, using a screen of 2½ x 6½-inch diamond mesh about 8 x 4½ feet in area, fastened by a cable to the rear of a ¾-ton truck. This drag does much to even the surface of the roadway. One pass of a 12-ton roller thoroughly keys the chips to the road surface, and if more than one pass is made, the chips are liable to be crushed. After the rolling the street is open to traffic, which irons out the traveled way into a smooth, quiet riding, non-skid surface.

In order to do efficient work, it is necessary to have two distributors to apply the Tarvia, so that one will be applying the binder while the other is getting a load. Also, sufficient trucks must be used for hauling the stone chips, so that they may be spread immediately behind the application of the Tarvia and the road roller kept busy. With our organization and planning, Tarvia is being applied in one block, stone chips in the next block, and in the third the roadway is being rolled, all operations being kept going at the same time. If the streets have easy grades, we can readily surface 12 blocks per day, but when steep grades are encountered, this is reduced to 8 blocks daily.

COST OF STREET SURFACING

Cost of Tarvia	$0.029 per square yard
Cost of stone	0.009 " " "
Cost of labor	0.008 " " "
Total	$0.046 " " "

Tarvia cost $0.1065 per gal. applied
Stone cost $0.90 per ton at plant
Labor $0.50 per hour

New York to Stimulate Urban Redevelopment

By THOMAS S. HOLDEN
President,
F. W. Dodge Corporation,
and Chairman,
Slum Redevelopment Committee,
Merchants Association of New York

Proponents of this legislation believe that it may stimulate similar laws in other states; interest in this act has been nation-wide. Such legislation may very well build up a backlog of construction demand to become effective in a large way when the peak load of defense construction, defense housing activity, and industrial plant expansion has been passed; it may develop large employment possibilities during the post-emergency adjustment period that lies ahead.

THE Urban Redevelopment Corporations Law (Desmond-Mitchell Bill, Senate Introductory No. 408, Assembly Introductory No. 535), passed by both houses of the New York State Legislature on April 3, and signed by Gov. Herbert H. Lehman on May 1, seeks to crystallize the best ideas developed through the past eight or ten years in many discussions of the problem of rehabilitation of blighted urban areas by private enterprise.

Two of its most important provisions seek to overcome the two greatest difficulties encountered by private investors. The necessity of assembling large plottage under single ownership for large-scale operations is met by the provision that a redevelopment corporation whose development plan has been officially approved may, after securing control of at least 51 per cent by assessed valuation and 51 per cent by area of the total property to be reclaimed, acquire the remainder by condemnation. The problem of competition between highly developed, heavily taxed central locations and moderately developed locations in suburbs and outlying districts is met by the provision that a local legislative body may, by ordinance or local law, exempt from local taxation, up to a maximum period of ten years, all *increments* of value created by assembly and improvement of the property.

This is an enabling act for cities, to be used in any particular city of New York State at the discretion of the local legislative body. Therefore, public supervision will be exercised by city officials. Physical plans must meet standards drawn up by the city plan commission and must receive specific approval by that body. Financial and management aspects of redevelopment corporations are placed under the jurisdiction of a supervisory agency to be designated by the local legislative body; such supervisory agency may be the chief financial officer of the city, or any other official or bureau, existing or newly created for the specific purpose. The supervising agency would approve the financial set-up, audit and approve development cost, approve mortgages, sales of real property of redevelopment corporations, and any reorganization or dissolution plans.

Wide latitude as to types of redevelopment projects is permitted, on the principle that blighted areas should be redeveloped for their best economic use, including housing of any suitable rent-classification, commercial or industrial buildings or appropriate combinations. Gradual redevelopment over a period of years would also be permitted.

No rent limitations are provided in the bill, for two reasons: in the first place, a wide variety of development possibilities is desirable for well-rounded community improvement and to enhance the future tax-paying possibilities of the property; in the second place, general market conditions, competition with properties in outlying locations, and the necessity for large-scale developments to reach a large moderate-rent market, all constitute economic checks on rents, and a redevelopment corporation's judgments on these matters would be reviewed not only by the supervising agency but also by mortgagees.

Redevelopment corporations which would be chartered under this act would not be limited-dividend companies. However, it is not within the intent of the act to encourage speculative enterprises, and every reasonable provision is made for creation of management companies which would maintain continuous operation, amortize indebtedness at reasonable rates and build up reserves and surpluses. To accomplish this purpose, it is provided that a redevelopment corporation may not, during the tax-limitation period, pay dividends in total amount greater than an average of 5 per cent of development cost minus all interest disbursements.

Trinidad followed the Trailblazers!

IT'S hard to realize that less than one hundred years ago covered wagons were rolling west over trails destined to become great transcontinental highways.

And history shows that when many of these highways were at last paved, Trinidad Native Lake Asphalt was used for the surfacing.

Today, many of the original Trinidad highways are still in hard service, turning in enviable records of low maintenance costs. Today, many new highways are being built of Trinidad, because experience has proved that this unique native asphalt has so many qualities essential to fine paving.

Trinidad is unchanging . . . always uniform. It has an excellent balance between adhesion and cohesion. It contains a colloidal mineral filler that is largely responsible for its long-wearing qualities.

Today, as America stands on the threshold of an accelerated paving program, Barber Asphalt Corporation, sole distributor of Trinidad Native Lake Asphalt in the United States, is ready with a complete line of asphalts for highway construction and maintenance. Mail the coupon below for complete information on the Barber Paving Products in which you are interested.

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- ☐ Barber Block and Joint Filler

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An Analysis of Billing

Sewer Service Charges, II

(Continued from page 67, April issue)

A Discussion Based on Experience in Detroit, Mich., in Distributing the Cost of Building and Operating a Sewage-Disposal System Among the Users

By H. F. Smith
Senior Administrative Assistant,
Detroit Department of Water Supply

6. What Is the Most Satisfactory Means of Forcing Payment of Sewer Service Charges?

There are a number of possibilities, the principal of which are:

a. The right of lien on the property
b. The right to turn water off
c. The right to disconnect the sewer
d. Civil suit

While the right of lien is a formidable weapon for use against delinquent customers, it is a most cumbersome and costly one, because of the expense of foreclosure which usually exceeds to a considerable extent the ordinary sewer service or water charge. Its principal value lies in its ability to fix responsibility and depends largely on some other agency to actually force collection.

The perfect combination is the right of lien to establish liability and the right to discontinue sewer service and/or water service to the property for non-payment of the sewer service charge. The Detroit ordinance provides for all those measures and includes the "right to sue."

7. What Effect Will Adding Sewer Service Charges to Water Bills Have on Water Bill Collections?

This is a question that has disturbed the management of many water departments. Such meager reports as have been available seem to indicate that the seriousness of this question is probably being overrated. Detroit's experience on this point has not been of sufficient duration to make possible any definite conclusions. However, it is believed that experience thus far gained is indicative of what the final outcome will probably be. Detroit's total delinquent balance of its 300,000 water accounts stood at $108,000 on May 31, 1940. Most of this balance is represented by current charges. Then the practice of adding sewer service charges to water bills was commenced, so that by August 31 all accounts had been billed for the combined charge. During the three-months billing cycle of May 31 to August 31, water sales increased 4 per cent, while the addition of sewer service charges accounted for an increase of 12 per cent for a total of a 16 per cent increase to sales, whereas during this same period the delinquent balance increased only 8 per cent. These figures seem to indicate that Detroit's collection picture is somewhat better after the first cycle of sewer service billing than it was before. If this is true, it is of course not because of the addition of sewer service charges but in spite of them, and probably due to improved business conditions. This experience, however, together with our observation of general customer reaction to this charge during the last three months, leads us to believe that the addition of sewer service charges to water bills does not necessarily have any detrimental effect on collection of water bills.

8. What Is the Most Satisfactory Method for Billing Users of the Sewerage System Who Obtain All or Part of Their Water Supply from a Source Other Than from the City's Regular Water System?

Detroit has not yet completed its study of this problem, so can not report its experience. Progress made thus far, however, indicates that there are no insurmountable obstacles in the way of a satisfactory solution. The city ordinance provides:

". . . Charges against property served and/or users within the corporate limits of the city of Detroit, including manufacturing and industrial plants obtaining all or a part of their water supply from sources other than the city's water system, shall be determined by gaging or metering, in a manner approved by the city acting by and through its Board of Water Commissioners, the actual sewage entering said sewage system or the corresponding water use. Meters or other means for gaging or metering as above provided shall be installed by the property served and/or the user of the sewage-disposal system as required by, and under the supervision of, the Board of Water Commissioners of the city of Detroit, as a condition to the use of said sewage-disposal system. It is hereby determined that such meters or other method of measurement is required to provide for the proper operation of the system and disposal of sanitary sewage and other waste in the interest of public peace, health and safety, and the same shall be installed within 30 days after written notice by the Board of Health of the city of Detroit so to do shall have been served upon the owner of the property and/or the user of the sewage-disposal system or posted upon the premises.

Any violation of or failure to comply with the foregoing provisions of this ordinance shall be punishable by a fine of not to exceed $500 and costs; and in the imposition of any such fine and costs the Court may make a further sentence, that in default of the payment thereof, within a time to be fixed in such sentence, the offender be committed to the Detroit House of Correction for any period of time not exceeding 90 days. . . . "

9. What Are the Special Problems That Arise in Connection with Billing for Sewer Service Rendered to Suburban Communities?

There is probably no semblance of uniformity between various cities in the problems that arise from this source. In Detroit, the situation is rather involved. Eighteen suburban cities and villages receive their water supply from the Detroit water system through master meters. Approximately 9,000 properties in unincorporated suburban areas also are served by the Detroit water system through individual meters. Only two of the suburban cities that use Detroit water are served by the Detroit sewerage sys-

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Streets that issue such invitations don't just happen, however. They're carefully planned . . . properly built . . . well maintained. And you'll usually find a "Caterpillar" Diesel Motor Grader in the thick of the construction and maintenance work!

"A street department in itself." *That* describes this machine! It can mix and spread gravel, oil-mat and dirt. Clean ditches. Dress shoulders. Scarify and reshape surfaces. And, single-handed, build new streets from start to finish!

A fast worker on any job, the "Caterpillar" Diesel Motor Grader quickly puts streets back into circulation so business can go on as usual. Economical to operate and maintain, it pays double dividends through better work for the City Engineer and lower costs for the taxpayers!

And it is not only a street machine. You can use the "Caterpillar" Diesel Motor Grader to make and maintain your playgrounds, alleys and airport. Put it to work in Winter removing snow. In other words, use it all around the city . . . all the year around. Hundreds of municipalities do that and are better off for it. Let us give you the names of a few and tell you what they've accomplished. *Write today!*

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A "Caterpillar" Diesel No. 112 Motor Grader owned by the city of Ontario, California, shown here as it scarifies a beautiful palm-lined drive in preparation for a smooth, new surface of oiled crushed stone. There are three sizes of "Caterpillar" Diesel Motor Graders. Remember that these machines give you more than ordinary Diesel economy through their ability to operate efficiently on low-priced, low-grade, non-premium fuel!

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DIESEL

ENGINES AND ELECTRIC SETS • TRACK-TYPE TRACTORS • ROAD MACHINERY

tem, while there are three cities which do not use Detroit water that are connected to the Detroit sewers. Likewise, only part of the suburban individuals who use Detroit water are served by the Detroit sewers, while other suburban individuals who do not take Detroit water do use the sewers. To further complicate matters, all the suburban cities and most of the suburban individuals who use the sewers, have for many years prior to this been using the Detroit sewers, in accordance with the terms of separate contracts which provide for flowage rights and costs therefor, but which do not include provisions for treatment or cost thereof. In general, the answer to this problem has been to execute new and uniform contracts for the use of the sewers and make necessary adjustments to the old contracts for flowage rights.

Rates offered another problem, in that a substantial portion of the construction of the sewers and treatment plant was financed directly, or indirectly, from city of Detroit general tax revenues, to which suburban residents did not contribute; consequently, this fact had to be taken into consideration in the establishment of rates, with the result that the suburban sewer service rate per 1,000 cubic feet of water consumed is considerably higher than the city rate.

10. What Kind of an Adjustment Should Be Made for Water Used in Such a Manner and for Such Purposes as to Exclude the Possibility of Its Returning to the Sewers?

This troublesome question is always present where metered water is used as the base for sewer service charges. The principal difficulty presented by this question is where to draw the line if adjustments are to be allowed for metered water which does not reach the sewer, since there is probably no consumer who does not use some water that is not discharged to the sewer. The class, therefore, runs the entire gamut from the customer who occasionally sprinkles his lawn, to large industries that use substantial quantities of water in processing operations and where such water is eventually discharged, after serving its purpose, to some outlet which is not connected to the sewer system, or where it is used as an ingredient of the firm's product, converted into steam, or placed in railroad locomotives which are about to pull out for points beyond the limits of the sewer system.

There have been several methods tried for adjusting charges to meet this condition. These have met with varying degrees of success. The most frequently used method appears to be the use of the "deduction meter," a meter installed to register that part of the water which is used in such manner as to make its return to the sewer impossible or at least unlikely.

The disadvantage of this plan is that it is frequently difficult to draw a definite line between delivered water which does, and does not, reach the sewer, and even if it can be clearly segregated on paper, it is likely to be an expensive operation to rearrange the plumbing so that it will be possible to meter separately each kind of water service. The cost of the extra meter alone would practically bar its use on residential properties and even though all these difficulties are met and the deduction meter finally installed to cover a certain section of the water system which has been separated and declared to be eligible for coverage by a deduction meter, there is no assurance that it is going to stay that way, as has already been discovered by some water departments.

Another plan in use to some extent on residential services is to base the sewer service charge for summer months on consumption of the preceding winter months on the theory that the higher consumption in the summer is due to lawn sprinkling. This plan would not be at all practical, as far as Detroit is concerned, for the reason that it is known that increased consumption in the summer is frequently due to causes other than lawn sprinkling, and further, there are many accounts whose winter water consumption is higher than the summer consumption. It would increase commercial costs considerably because of the many exceptions that it would cause the regular billing routine. Besides all these difficulties, this plan of adjustment apparently pre-supposes that meter-reading periods are divided into four annual periods that conform to the seasons of the year. Such, of course, is not the case. In Detroit, for example, meters are read every day of the year on the cycle plan, so instead of four reading periods there are 365, each of which varies from the others in period covered by from anywhere from one to ninety days.

In connection with this question we should not lose sight of the fact that, regardless of the adjustment policy, a certain revenue must be realized from the application of the sewer service rate. The more water consumption that is declared exempt from the application of the sewer service rate, the higher the rate must be for the water that is subject to the charge. If this resulted in a rate increase only in the amount required to offset the revenue lost by "exemptions," it would not be so bad, for then it would simply be a change in the method of distributing a fixed expense. Unfortunately, however, all the proposed adjustment methods cost money to operate; consequently the rate must be increased an additional amount to cover adjustment costs. Obviously, the net result is that, while adjustments have been made for water that does not reach the sewer, the total bill for sewage disposal is higher than it would have been had no adjustments been made.

Because of the shortcomings of all the adjustment methods that so far appear to be available, Detroit has not yet adopted any. It began billing sewer service charges with water bills on June 19, 1940. Since then, every one of its 300,000 customers has been billed. To date there have been only nine requests for adjustment. (This does not include counter inquiries and requests made by customers who withdrew their request after the Department's explanation of the charge and the procedure relating thereto.) These nine customers are all large consumers and are cooperating splendidly with the Department in an effort to find a satisfactory answer to this problem. They have paid the sewer service bills in full, subject to a final decision on the question of adjustment. A study of this question is now being made by the various city

(Concluded on page 81)

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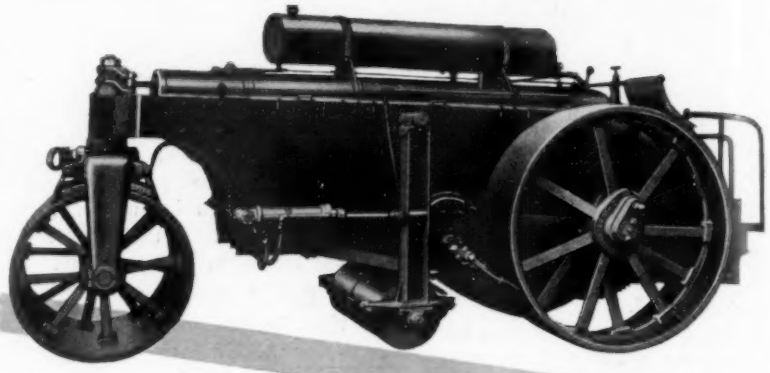
ROLL-A-PLANE: Levels and compacts with straight-edge accuracy. Center roll concentrates pressure on the high spots...forces excess material into low areas... Available in 6, 7, 8, 10, and 12-ton sizes.



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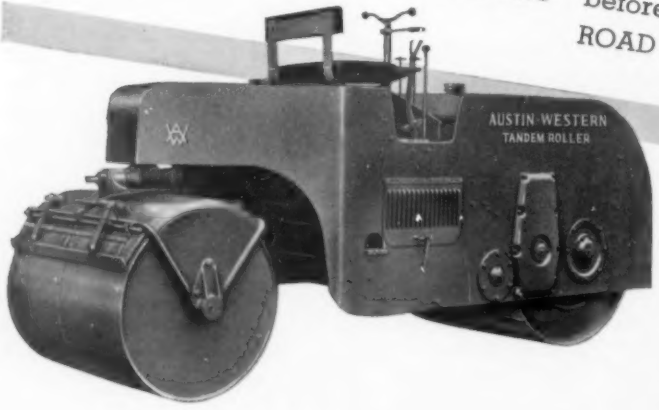
Get all the facts about A-W Roller performance and economy advantages before you buy. THE AUSTIN-WESTERN ROAD MACHINERY CO., Aurora, Illinois.



A-W VARIABLE-WEIGHT TANDEM: It rolls and reverses with pendulum smoothness. Sets new standard for stability, visibility, ease of handling and maneuverability. Sizes: 5 to 8-ton and 8 to 10½-ton.

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SHOVELS AND CRANES

Austin-Western

Refuse-Handling Records for Better Methods and Costs

Accurate and Timely Reporting Are Indispensable to Evaluating Work and for Proper Control

By Otto K. Philipp
City Engineer,
Flint, Mich.

RECORDS and accounting should be coordinated to furnish needed information concerning actual operations and results in any city department. Accurate records make possible efficient operation. In a waste-collection service they are essential for proper accounting of time and work done by employees, for the distribution of the elements of expense, and for the effective measurement of equipment, as well as for planning work schedules, establishing routes, judging the value of different types of equipment, deciding upon improved methods, distributing work and determining whether work has been done at a reasonable cost.

The cost-accounting forms and systems in use in the city of Flint were developed as the result of a survey and analysis of the existing system made in 1933 by members of the staff of Public Administration Service and the Committee on Uniform Street and Sanitation Records of the American Public Works Association. The installation was made under the auspices of the Michigan Municipal League to serve as a model which would be helpful to other cities in the state. With the short cuts and simplified methods introduced, it has been possible to operate our system without any addition to the existing accounting and clerical staff.

Collection Methods

In Flint, garbage, tin cans, ashes and dead animals are collected separately. Garbage is collected from the rear of the premises, hauled to a centrally located station and transferred to large trailers. Here, collection cost terminates. Disposal cost begins with hauling to the city-owned hog farm 12 miles distant, follows through feeding to hogs purchased on the open market, hog farm operation and maintenance, and ends with the sale of fat hogs for pork or serum purposes. Tin cans are collected once a month from the rear of the premises, and ashes are collected from the curb each week during the heating season.

Typical Forms

The forms used for records in Flint include a daily summary or running record of each collection unit, a monthly route summary in which labor, equipment costs and ratios for the month for each route are compiled, and a cost analysis of waste-collection routes which provides a constant check on the work and is indispensable in determining the efficient route layout and equipment. A copy of the latter report is posted on the bulletin board and develops great interest and rivalry between collection crews. Monthly distribution of labor and equipment for charging costs to proper accounts, and a work and cost statement which gives a picture of waste-collection operations, complete the list of standard forms. Complaints and special-service requests are reported and analyzed individually and tabulated in a monthly report according to names of collectors, thus supplying information which helps in pinning down responsibility, in weeding out incompetents, in eliminating causes of complaint and improving service generally.

Disposal Records

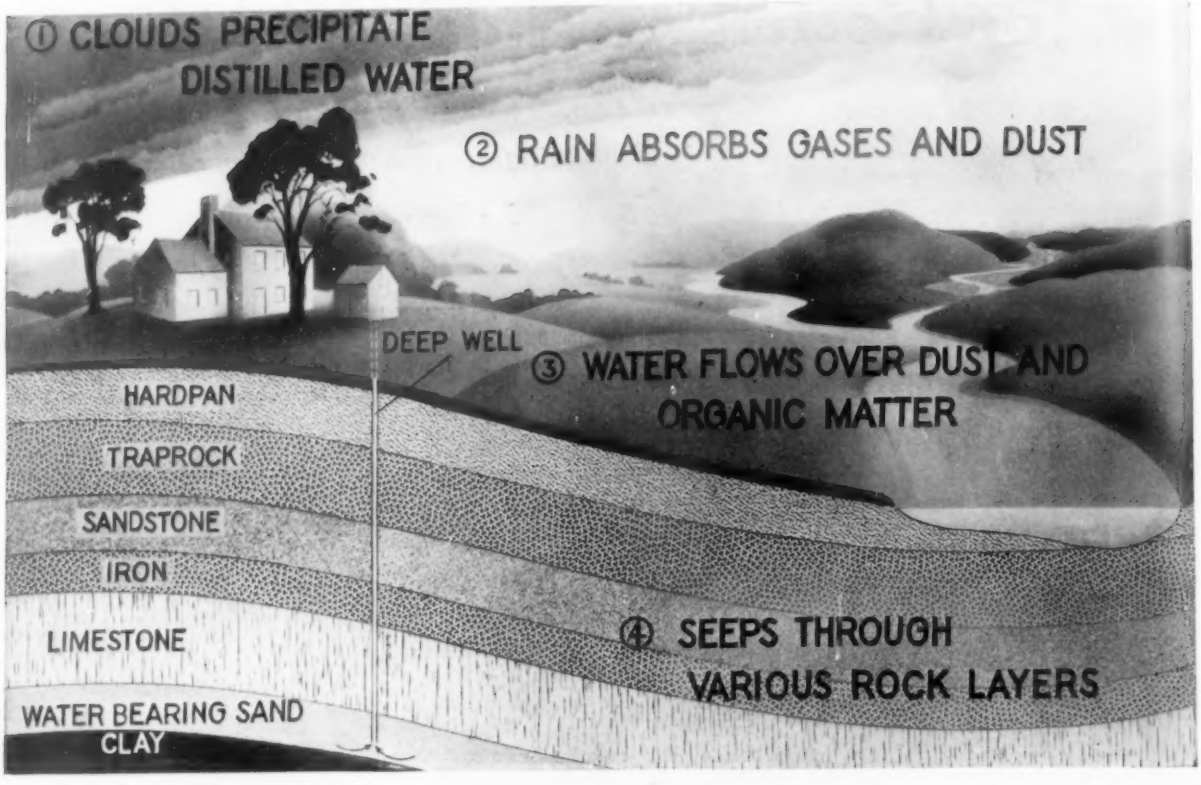
Hog-farm reports replace the incinerator or other disposal reports used in many municipalities. These include five forms. A daily report shows any change in the number and condition of hogs, payroll and labor distribution data and information on the cost and use of equipment. A monthly operating report furnishes an analysis of the hog farm and indicates how its finances are running, whether income and expenses are in line, and how current results compare with previous periods. Rigid control over the status of hogs is maintained at all times by the use of a perpetual inventory[1] record. This gives the daily change in the number of hogs due to sales, purchases, deaths and births. A continuous record of hog-farm sales is maintained in a report which lists each shipment, enables an order to be made of sales at any time and indicates the trend of hog sales. A detail record of hog purchases completes the information required for control of this function.

Conclusion

Although the number of forms indicated may at first seem to call for a large amount of complicated paper work, short cuts and simplified methods are introduced and the procedures become largely routine. In any system where substantial economy and increased production is the ultimate desire, accurate and timely reporting are indispensable to the official who must evaluate work accomplished and maintain proper control. For purposes of economy all the forms used are mimeographed in our own office.

[1]—From a paper presented at the 1940 Public Works Congress in Detroit, Mich. Readers of The American City wishing copies of the mimeographed forms may secure them by writing direct to Otto K. Philipp, City Engineer, Flint, Mich.

Here's how Nature makes water HARD



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Write for free booklet on this, or on zeolite water softeners, iron removal plants, or *any* water conditioning process. Address: The Permutit Company, Dept. G-3, 330 West 42nd Street, New York, N. Y.

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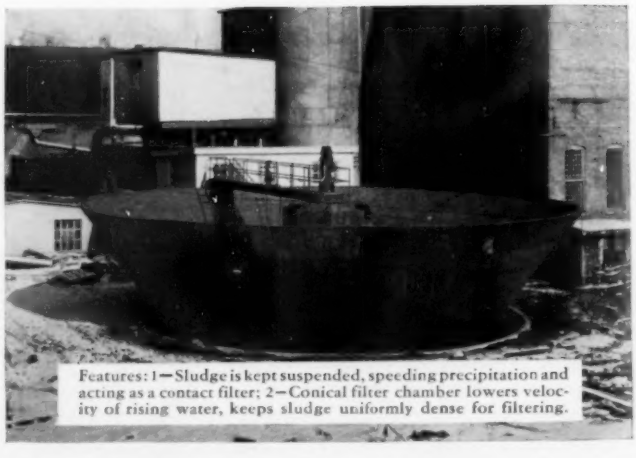

Features: 1—Sludge is kept suspended, speeding precipitation and acting as a contact filter; 2—Conical filter chamber lowers velocity of rising water, keeps sludge uniformly dense for filtering.

PERMUTIT WATER CONDITIONING HEADQUARTERS

Forward Steps

Reported by Municipal Officials, Chamber of Commerce Executives, and Others

Port Development at Providence

PROVIDENCE, R. I.—This city, whose port facilities have just been expanded and improved at a cost of $2,000,000, has embarked on an intensive and thoroughly businesslike campaign to promote use of the dock by shippers throughout the world, with cargoes destined for points in New England. Early in January the City Council created the new post of Port Agent.

Records of the Department of Public Works, under which the pier is a subdivision, show that during the last five years the revenue has amounted to $424,670, against operating costs of only $61,004. Freight handled has averaged around 400,000 tons annually.

The need for enlarged facilities had been felt for some time. The 3,000-foot frontage, a large part of which is leased to a lumber concern and a coal company, placed berthage at a premium as more and more bottoms used the port. So when the city had an opportunity to expand with PWA assistance, it worked out a project extending the granite sea-wall 1,300 feet and adding about two million square feet to the wharf area.

Supplementing two old warehouses, which contained 63,000 square feet, a new transit shed, 600 feet by 200 feet, and 20 feet high, was built. It is completely fireproof and has a removable pan-concrete ceiling. Railroad tracks were extended the length of the new section, as was the 50-foot road along the front of the dock, between the sheds and the water. Smaller connecting roadways also have been built on the extended area.

Since the extended area was built partially on made-land, 614 30-foot spiles were driven to provide a firm foundation for the huge storage shed. Ample lighting was installed for night work, and concrete loading platforms and ramps, both for trucks and trains, were provided. Installed, too, was a dry-type sprinkler system for the protection of merchandise.

As an important part of the improvement, the channel was dug to 35 feet at mean low water, and to facilitate navigation of larger vessels an approach 600 feet wide was dredged from deep water to the pier. Mud and silt dug from the river bottom is being used to reclaim a large, low area adjacent to the wharf, which, when ultimately filled in, will add about 2,225,000 square feet to the city's waterfront and dock property.

JAMES J. FISHER,
Port Agent.

Extensive Improvements for Wilmington Marine Terminal

WILMINGTON, DEL.—Through the Wilmington Marine Terminal flows ilmenite from India for paint factories, wood pulp from northern Europe for paper mills, pyrites from Spain for chemical processing, cork from Portugal, jute and licorice from Mesopotamia, myrobalan nuts and quebracho logs used in making tannic acid, and other raw materials. The war has of course seriously retarded the normal flow of materials from abroad but on the other hand ordnance and defense materials are now received for delivery to nearby military posts.

The terminal was originally built in the early 1920's. Since then the freight handled has grown every year, until for the past five years the annual total has been well over 500,000 tons. At the same time, facilities have become increasingly in need of repairs to maintain the usefulness of the terminal. To this end, the Board of Harbor Commissioners, with the aid of the WPA, has undertaken extensive improvements, which are now rapidly approaching completion.

Built on filled-in ground pumped in from dredges, the foundation of the terminal started to settle soon after it was completed. Floors of the storage and transit sheds sank from 18 to 24 inches, and the railroad tracks, which are used by the Pennsylvania, Baltimore and Ohio, and Reading lines, also settled to a serious degree.

The method used to raise the level of the sunken floors was simple and successful. The concrete flooring was broken up, but not removed. Earth, taken when the terminal grounds were graded, was placed on top of the broken concrete and thoroughly tamped. Over this was poured an 8-inch slab of reinforced central mix concrete supplied by a private concern. The new floor surface thus formed has proved serviceable and durable.

Re-flooring operations have been carried on under difficult conditions, and have required extreme care, because the floor space has been in constant use. For example, only a few feet from the area where work has been carried on, bales of paper have been stacked from floor to ceiling.

The reconstruction of the sunken floor is, however, only a part of the many improvements that have been made at the terminal. The physical properties of the entire terminal plant—buildings, roads, tracks, sanitary facilities, docks, and other facilities—have been thoroughly modernized.

The reconstruction of the sunken floor is, however, only a part of the many improvements that have been made at the terminal. The physical

New Storage Shed at the Municipal Wharf, Providence, R. I.

A SPADE is one of the oldest tools known to man and still very handy when it comes to leveling off the bottom of a trench. But trench hoes and bulldozers have largely displaced the spade in the construction of cast iron pipe lines. Cast iron pipe is likewise one of the oldest materials for underground mains. Yet, in three centuries, no other type of pipe has usurped its place as the *standard* material for underground mains. Super-de Lavaud centrifugally cast iron pipe is the same standard material produced by improved and carefully controlled casting methods.

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WORK PROJECTS ADMINISTRATION PHOTO BY HIGHTON

Marine Terminal administrative building, Wilmington, Del., built entirely by WPA, which also made repairs on towers and laid new concrete walks at waterfront of Terminal

properties of the entire terminal plant—buildings, roads, tracks, sanitary facilities, docks, and other construction—have been thoroughly modernized. Following is a summary of accomplishments: the re-flooring of three sheds, covering 168,000 square feet of floor space, including the laying of more than 40,000 square feet of concrete, one foot deep, on ramps; the raising of railroad tracks which had settled; the renewing of dock slab; construction of two fireproof buildings; installation of 300 feet of 18-inch sewers and 2,100 feet of water lines; straightening 17 steel unloading masts; putting in a new fender system and buffer logs on the dock; painting four storage sheds and the administration building; reconstruction of under-supports of railroad trestle; removal of 150,000 cubic yards of earth in grading operations; rebuilding of concrete walls in 200-ton Howe railroad scales, and similar work.

C. H. GANT,
Manager, Wilmington Marine Terminal.

Well-Planned Market Built of Salvaged Paving Brick

FLINT, MICH.—A new modern city market, constructed by the city with WPA help, has won enthusiastic approval from consumers, producers and farmers in this area. The old, inadequate market, erected in 1920, was in the traffic-congested downtown business district, lacked parking facilities and was not capable of being expanded to meet increased demands. A 5-acre portion of an abandoned dump, half-a-mile distant from the old market, was acquired, and by clearing and grading became a suitable setting for the new producers' market, with generous parking accommodations and ample room for a greater future development. It is located on the other side of a broad boulevard from park property adjacent to the Flint River, where landscaping improvements envisioned in the near future will enhance the beauty of the entire area.

Buildings on the old market site were torn down and this city-owned property in Flint's downtown was cleared to provide much needed off-street parking for more than 150 cars. Usable portions of the old market buildings were re-erected for use with the new structures.

The main building of the new development (56 ft. x 58 ft.) was built of salvaged paving brick. On its main floor are the offices of the Market Master, two large meat markets, and conveniences for washing utensils. The basement—to which there is outside access by a ramped driveway—contains a complete heating plant, public toilets, and space for safe storage of election equipment. On the second floor, an apartment has been provided for the caretaker, laboratory and office for the gas and smoke inspector, and space for a cafeteria, assembly hall or any other desirable expansion.

The glass-enclosed green-market wing of the building (26 ft. x 23.5 ft.), which is reached through the meat market or from the outside, has a floor raised for the convenience of truckers who can back up to it under the overhanging roof. Convenient also for truckers is the outside open concrete platform (26 ft. x 105 ft.), adjacent to the main building. A poultry shed (16 ft. x 70 ft.) is somewhat isolated from other activities.

JAMES R. POLLACK,
City Manager.

Discounts Stimulate Collection of Paving Assessments

MORGANTON, N. C.—This town, for the first time in its history, has offered inducement for the prompt payment of street-improvement assessments and the results have been satisfactory.

During the past several years the city has carried on street-improvement work utilizing both PWA and WPA funds. This work was recently completed and assessments totaling approximately $87,000 against abutting prop-

The New Buildings of Flint's City Market, and the Ample Parking Space Provided

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city were made. Heretofore, the policy has been to allow property owners to pay in either five or ten annual installments, beginning on a specified date, 6 per cent interest being charged on the unpaid balance. No inducement was offered for prompt payment or payment in full, so the large majority of the property owners did not pay until it became necessary to do so.

On the recent assessment, the Manager recommended allowing a discount of 5 per cent, decreasing by 1 per cent a month until the discount was eliminated, after which interest would be charged on the unpaid balance.

As a result of allowing this discount, approximately $24,000 was collected while the 5 per cent discount was available, and an additional $3,000 while 4 per cent discount was available. As was expected, all who were financially able to do so paid their assessments in full immediately. Many who were less able to pay made special arrangements enabling them to pay in full and take advantage of the maximum discount. Many who normally would have made no effort to pay, have paid in full or in part.

The city has benefited in several ways. First, it provided immediately ample funds to continue financing our WPA street-improvement program, our charter permitting the use of assessments for this purpose. Second, it has eliminated the necessity for issuing bonds to carry on this work, and has provided a revolving fund which it is believed will carry on the work for several years. Third, it has eliminated from further consideration all accounts paid in full, reducing the number of accounts for which installment notes will have to be prepared. Fourth, probable loss due to unpaid assessments, it is believed, will be materially reduced.

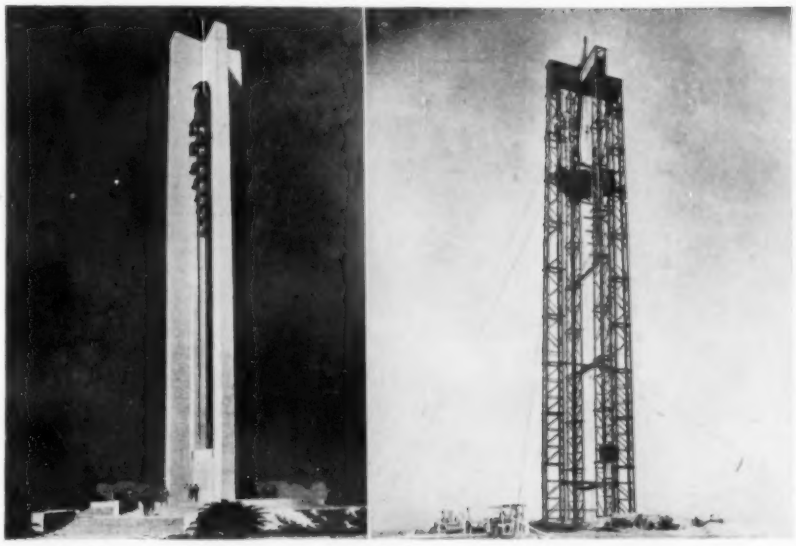
From personal contact with many who paid their assessments in full, it is known that they made special efforts to pay in order to secure the discount.

CHESTER F. LEWIS,
City Manager.

32-Bell Carillon Progresses in Dayton

DAYTON, OHIO.—An unusual, 32-bell carillon of stream-lined design is in progress of construction in this city. Scheduled for completion late this year, the Deeds Carillon is being built and will be maintained through the generosity of Mrs. E. A. Deeds, wife of the Chairman of the Board of The National Cash Register Company.

The structure has a 102-ton steel framework, fabricated and erected entirely by arc welding, with latest welding equipment. The Pittsburgh Testing Laboratories is handling all welding inspection.



COURTESY OF LINCOLN ELECTRIC CO., CLEVELAND, OHIO

The Deeds Carillon, Dayton, and Its Framework

Each of the four towers of the Carillon is 156 feet 6 inches high, and 3 feet 6 inches x 6 feet at the base, tapering to 3 feet 6 inches x 4 feet at the top. Each of the towers is composed of five arc-welded sections—a top section of 27 feet, three intermediate sections of 35 feet each, and a bottom section of 25 feet 6 inches. The structure is 30 feet across from the outside of one tower to the outside of the tower opposite. Girders 6 feet in depth spanning the towers at the top carry the framework supporting the 32 bells, which weigh 49,925 pounds combined.

The framework, which is shown in the accompanying illustration, is constructed of vertical, horizontal, and diagonal angles. The flanges of the horizontal angles extend outward to serve as supports for the stone facing. At the base of each frame, the angles are 8 x 8 x 1⅛ inches, tapering to 8 x 8 x ¾ inches at the top.

Reinhard & Hofmeister, of New York City, are the architects and engineers for the structure; Mellon-Stuart Co., of Pittsburgh, are the contracting engineers; and Burger Iron Co., Dayton, the fabricators and erectors.

The Meneely Bell Co., of Troy, N. Y., is casting the bells, which will range in size from the "King Bell," weighing 7,000 pounds, to the smallest bell, weighing 150 pounds.

CHARLES T. BRENNAN.

Billing Sewer Service Charges, II

(*Continued from page 73*)

departments affected, with the assistance of the large water users concerned. Conclusions have not yet been reached.

We do not mean to imply that all water consumers in Detroit except the few above mentioned are delighted with the sewer service charge, as there are probably some that have not yet been heard from, but we are very much pleased with the way that the citizens of this city have accepted this additional charge. We think the average resident realizes that construction of a sewage-treatment plant was necessary and they are convinced that they may as well pay for it this way as any other. It is also our opinion that the fact that our citizens have accepted this additional charge so agreeably is due to an effective, inexpensive publicity campaign which consisted of getting to the consumers a frank statement of the facts by means of newspaper and radio announcements and a printed pamphlet delivered to each customer with his water bill.

ACKNOWLEDGMENT.—A paper presented at the 1940 Public Works Congress of the American Public Works Association in Detroit, Mich.

CHEVROLET'S
Extra Pulling Power is Extra Earning Power

Talk to the driver of a 1941 Chevrolet Heavy Duty truck. Ask him what its added power means in terms of added hauling efficiency. He will tell you that it means less time on the route . . . better speed on the hills . . . faster acceleration . . . positive starts under maximum load. That adds up to more trips per day, or more merchandise or material moved per trip.

Chevrolet's extra pulling power does mean extra earning power—because, with a Chevrolet, you now can do a given job at less expense, or do a bigger job at no additional cost.

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Chevrolet's Standard engine gives full 90 horsepower and 174 foot-pounds of torque. Optional at but little greater cost is the Chevrolet "Load-Master" engine, with the extraordinary pulling power of its 192 foot-pounds of torque—the most powerful engine in the entire field of low-priced trucks.

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Improving Municipal Administration

Current Items from the Public Administration Clearing House

When a Soldier Breaks a City's Laws

WHEN PRIVATE JONES GOES TO TOWN and drives through a red light, who has authority to arrest and punish him—local police and courts or military officials? The growing number of men in uniform revives this problem for local police officials.

In time of war, the military authorities have prior claim to prosecuting and punishing an offender except in the case of murder, when both civil and military courts have concurrent jurisdiction, the American Municipal Association points out in a study. But in peacetime, civil police authority takes precedence over military authority, although the military also may prosecute.

The place where the law was broken will in general dictate who makes the arrest, the Association advises cities. A soldier who breaks a civil law on the military reservation is taken care of by the military authorities—unless the crime is rape or murder. When he is in the city, it's the duty of the civil police to apprehend him if he commits a crime. However, civil authorities may and often do seek the aid of the military in enforcing the law, the study says. Some small cities whose police forces already have been supplemented by military police aid report satisfaction with such a plan.

The study advises city police to cooperate closely with military officials on the matter of law enforcement and service men. In the case of minor offenses, recommendation is made that arrest by military authorities be arranged if possible "without inconvenience and delay." Where this would not be practical, "arrangements should be made to turn the offender over as soon as possible after arrest to military authorities for punishment," the study says. This procedure, it is pointed out, aids discipline by keeping control of soldiers in the hands of officers.

In other cases, as soon as the offender has been arrested, the advice of his organization commander should be sought before decision is made whether the trial should be in the civil courts or by military authorities. Regardless of the nature of the offense, the study says, "when civil authorities find it necessary to detain a soldier or sailor they should immediately inform the authorities of the soldier's post."

Indiana Cities Get 50 Per Cent Increase in Gas-Tax Allocations

INDIANA MUNICIPALITIES benefited by a 50 per cent increase in the amount of state-collected gasoline taxes allocated to them when the 1941 State Legislature increased their share of gas-tax receipts from approximately $2,600,000 to $3,900,000, the American Municipal Association reports.

The amount turned over directly to municipalities was raised from $2,000,000 to $3,000,000 with each city's share determined by the ratio of its population to that of all municipalities in the state. In addition, the law provides that each county shall divide its share of the gas tax with cities within its borders, varying from one-half the county share, which must go to cities of the first class, to one-twentieth of the county share, which goes to cities of the fourth class.

Councilmen's Salaries Range from Nothing to $9,000

CITIZENS SERVING AS COUNCILMEN in one-fifth of the cities over 5,000 population in the United States fulfill this duty without pay, a survey by the International City Managers' Association shows. Salaries in the rest of the cities range up to $9,000 a year, depending upon a city's size and type of government.

Cities under commission government in general pay the highest salaries, according to the survey, which will appear in The 1941 Municipal Year Book. Typical salaries received by councilmen under this form of government range from $600 in cities of 5,000-10,000 to $5,500 in cities of 200,000-500,000 population. In mayor-council cities, the typical salaries for councilmen range from $78 a year to $3,000; and in city-manager communities, from $100 to $1,500 a year.

Salaries under $500 a year are the rule for mayor-council and city-manager municipalities below 200,000 population. The 14 cities over 500,000 population, all of which have mayor-council government, pay councilmen salaries ranging from $1,800 to $9,000 a year.

One reason for the higher pay in commission cities, according to the survey, is that commissioners perform administrative as well as law-making duties. Slightly more than 16 per cent of all cities between 5,000 and 500,000 population operate under commission government, and approximately the same percentage are city-manager communities. Mayor-council governments are found in more than 60 per cent of the cities, and the remaining communities—all in Connecticut, Massachusetts, New Hampshire and Vermont—have some form of town meeting government, with citizens holding the legislative power.

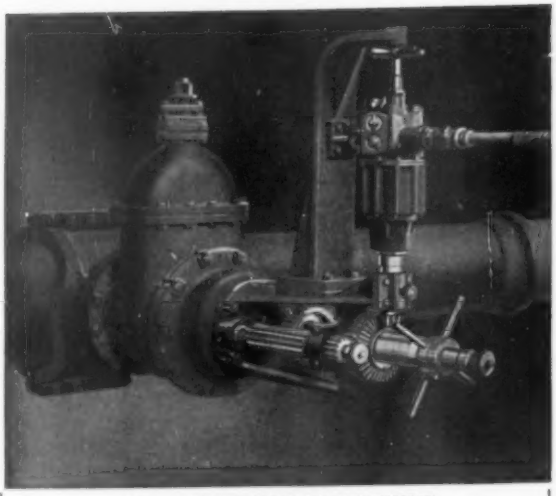
Cul-de-sac Streets Increasingly Popular

DEAD-END STREETS once shunned by cities that would be well-planned, now are considered desirable in residence districts, information in a study on subdivision control from Public Administration Service shows. Dead-end, or cul-de-sac, streets used to be unpopular, mainly because they often occurred where through streets were needed for traffic circulation, or they were not provided with adequate turnarounds for vehicles.

"Today, properly located and designed dead-end streets are recognized as desirable streets on which to live, particularly because they are free from the noise and hazards of through traffic," the study said. Radburn, N. J., especially designed as "the town for the motor age," helped popularize the cul-de-sacs.

Among cities which have repealed regulations once prohibiting dead-end streets are Rochester and Syracuse, N. Y. Though not entirely approving such streets, El Centro and Santa Barbara County, Calif., Richmond, Va., Dubuque, Iowa, and Pittsburgh, Pa., permit them under certain conditions. Their ordinances specify, however, that the streets have adequate traffic turnarounds at their ends.

Other communities permit cul-de-sacs in residence districts if the streets are purely local. Among these are Lake County, Ill., which requires that dead-end streets serve no more than ten lots, and West Allis, Wis., which allows them to serve only twenty lots. A number of communities permit dead-end streets wherever the normal arrangement of through streets is not practicable because of such barriers as



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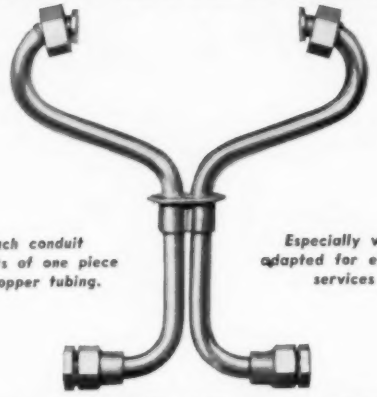

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the ORIGINAL cushion for noisy, worn manhole covers is the quick, easy, lasting, economical solution!

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steep bluffs, rivers, railroads and closely built-up industrial districts.

Thirty-five cities set a maximum on the length of dead-end streets—usually 400 or 500 feet, according to the study. A few cities specify minimum width requirements, from 30 to 50 feet. Space for turnarounds is specified in various municipal regulations to have a radius of 20 to 60 feet.

Retirement Systems for Municipal Employes

MUNICIPAL RETIREMENT SYSTEMS are operated for the benefit of city employees in more than 65 per cent of all cities over 10,000 population in the United States, the International City Managers' Association reports. The report, which is based on a survey of the 1,072 cities over 10,000 population, does not include retirement systems for school employees. It will be published soon in the Association's 1941 Municipal Year Book.

Of the 981 cities answering the Association's questionnaire, 687 reported retirement systems, with all classes of permanent employees except elected officials covered in more than a third. The per cent of cities having all classes of employees covered varies directly with the size of the city, with one exception—cities of 100,000 to 200,000 population have a slightly higher per cent coverage than those in the 200-500,000 group.

Retirement systems of 13 of the country's 14 largest cities—those whose populations exceed 500,000—cover all classes of employees, including police and firemen and other workers. St. Louis, the other city, covers only police and firemen. On the other hand, only 21 per cent of the 590 reporting cities between 10,000 and 25,000 population said they had retirement systems covering all municipal employees. Police and firemen only are covered by systems in 127 cities, firemen only in 54 cities, and police only in 37 cities. The other reporting cities have no retirement systems.

The per cent of cities having some classes covered varies much less among the several population groups, the Association states, as a result of the tendency of smaller cities to have systems for police and firemen when the rest are not covered. In cities below 100,000, systems covering only police and firemen are more common than systems covering all employees.

Areas Approved for FHA Defense Housing

PRESIDENT ROOSEVELT acted April 10 to provide defense housing for workers in the $1,800 to $3,000 income group by approving 146 localities in 41 states and territories as defense areas where homes could be financed under Title VI of the National Housing Act. The President's action followed a recommendation by Defense Housing Coordinator C. F. Palmer.

The Act provides 90 per cent mortgage insurance by the Federal Housing Administration in localities "in which the President shall find that an acute shortage of housing exists or impends which would impede national defense activities."

Coordinated defense housing programs have been completed or are under way in each of the communities approved, but these houses, built under direct Federal appropriation, are for an income group which cannot take advantage of Title VI.

Aid for Local Builders

In his letter to the President requesting approval of these areas, Mr. Palmer pointed out that national defense activities in these places have caused needs for housing beyond the capacity of the local building industry under existing methods of financing.

Construction under the new measure will complement, not supplant, the existing FHA facilities in the home financing field, Mr. Palmer said.

Provisions of Title VI

1. It will be restricted to localities (including a normal reasonable commuting area) "in which the President shall find that an acute shortage of housing exists or impends which would impede national-defense activities" and will be limited to commitments to insure entered into on or before July 1, 1942, unless the President should declare the emergency terminated prior to that date.

2. In contrast to the provisions of section 203 limiting 90 per cent mortgages to *owner-occupied* new homes, the new title authorizes insurance of mortgages of up to 90 per cent of FHA valuation of new properties in cases where the *builder* is the mortgagor.

3. Mortgages insured under Title VI will have a maximum term of 20 years.

4. Mortgages will be limited to a maximum of $4,000 on a single-family home, $5,000 on a two-family home, $8,000 on a three-family home, and $10,500 on a four-family home.

5. Mortgages eligible for insurance under Title VI are limited to those on new dwellings on which construction was started after January 1, 1940, and which were approved for mortgage insurance or for defense-housing insurance prior to the beginning of construction.

Approved Areas

As reported in *Defense* for April 15, 1941, the following areas were approved:

Alabama—Birmingham, Florence-Sheffield-Tuscumbia, Gadsden, Mobile, Montgomery.

California—(Northern District) Richmond, San Francisco and East Bay Cities, Vallejo (Southern District) Los Angeles, San Diego.

Connecticut—Bridgeport, Bristol, Hartford, Meriden, New Britain, New Haven-Ansonia, New London-Groton-Norwich, Waterbury.

Colorado—Denver.

Delaware—Wilmington.

District of Columbia—Washington.

Florida—Jacksonville, Key West, Pensacola, Tampa.

Georgia—Columbus, Macon, Savannah.

Illinois—Alton-East Alton, Chicago, Joliet, Rock-Island-Moline-Davenport, Iowa, Waukegan.

Indiana—Anderson, Fort Wayne, Gary-Hammond-East Chicago, Indianapolis, Lafayette, South Bend.

Iowa—Burlington, Council Bluffs, Davenport.

Kansas—Junction City, Kansas City, Wichita.

Kentucky—Louisville.

Louisana—New Orleans.

Maine—Bath-Brunswick, Kittery, Portland.

Maryland—Aberdeen, Annapolis, Baltimore, Elkton, Hagerstown, Laurel.

Massachusetts—Boston-Quincy, Greenfield, Springfield-Chicopee, Worcester.

Michigan—Battle Creek, Bay City, Detroit, Midland, Muskegon, Pontiac, Saginaw, Ypsilanti.

Missouri—Kansas City, Lebanon, Rolls.

Nebraska—Omaha.

New Hampshire—Portsmouth-Kittery, Maine.

New Jersey—Camden, Metropolitan Dist. of N. Y. in N. J., Trenton.

New York—Bethpage-Farmingdale, Buffalo-Niagara Falls, Elmira, Massena, Rochester, Schenectady, Staten Island, Syracuse, Utica.

North Carolina—Fayetteville, Wilmington.

Ohio—Akron, Canton, Cincinnati, Cleveland, Columbus, Dayton, Hamilton, Middletown, Sandusky, Steubenville, Warren, Youngstown.

Oklahoma—Lawton, Tulsa.

Oregon—Pendleton, Portland-Vancouver, Wash.

Pennsylvania (Eastern District)—Allentown-Bethlehem, Harrisburg, Philadelphia-Chester, Williamsport; *(Western District, Beaver County)*—Beaver Falls, Rochester, Ambridge, Erie, Pittsburgh.

South Carolina—Charleston, Columbia.

Tennessee—Knoxville-Alcoa, Nashville.

Texas—Beaumont-Port Arthur, Corpus Christi, Dallas-Grand Prairie, El Paso, Fort Worth, Galveston, Houston, San Antonio.

Utah—Ogden.

Vermont—Springfield-Chester.

Virginia—Alexandria, Newport News, Norfolk-Portsmouth.

Washington—Bremerton, Seattle, Tacoma, Vancouver.

West Virginia—Charleston, Morgantown, Weirton.

Wisconsin—Beloit, Manitowoc-Two Rivers, Milwaukee, Oshkosh, Racine-Kenosha.

Alaska—Kodiak.

Hawaii—Honolulu.

Puerto Rico—Aguadilla, San Juan.

Virgin Islands—Charlotte Amalie, St. Thomas.

K & M "Century" PIPE TUNNELS TWO MOUNTAINS WITH THE FAMOUS PENNSYLVANIA TURNPIKE

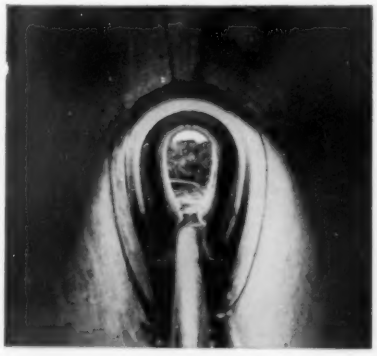
1 Portal of the tunnel, where the Pennsylvania Turnp" e passes under Kittatinny Mountain, and through which "Century" Pipe was installed to provide water for flushing the roadway.

Nothing like the Pennsylvania Turnpike has ever been seen before in this country. It dives straight through mountains . . . and under two of them it takes with it 9,800 feet of Keasbey & Mattison "Century" Asbestos-Cement Pressure Pipe, to provide water for flushing the roadway.

Like everything else involved in this epochal project, the pipe had to be good. You don't install anything under a mountain except what you *know* will endure. "Century" Pipe was selected because of its permanence. It is not only strong, but corrosion-proof and tuberculation-proof. Its interior walls stay smooth.

"Century" Flexible Couplings add their own special permanence to the line. They are absolutely leak-proof. They are easily installed, and combined with the light weight and handling ease of the pipe itself, cut laying cost to the minimum. Write for free booklet, "Mains without Maintenance." Address Dept. 1017.

2 The entire Pennsylvania Turnpike project broke speed records . . . and "Century" Pipe played its part. Notice how easily two men handle a 13-foot length. Installation time and cost are drastically cut down by the light weight and handling ease of this pipe.



3 The "Century" Pipe line is hung from the top of this drainage gallery where it passes under two mountains—Kittatinny Mountain and Blue Mountain. It is shown on the bottom of the gallery prior to raising to its final position.

4 Mr. Dave Agnew, Superintendent of Bates and Rogers Construction Corp., Chicago, who says, "This job called for speed and permanence, and that meant the use of durable, dependable materials easy to work with. 'Century' Pipe fits those requirements like a glove."

Plan to attend the 61st Annual Meeting of the A.W.W.A., Toronto, Ontario, Canada, June 22nd to 26th

KEASBEY & MATTISON

COMPANY, AMBLER, PENNSYLVANIA

Are You Planning to Be Alive—Five, Ten, Fifteen Years from Today?

From a 1941 Publication of the Regional Association of Cleveland, Ohio

WHY do we ask that? Because, you see, orders are being taken now for the kind of city you would like to live in then, the kind of house, transportation, work and recreation facilities, and the kind of neighborhood.

Perhaps you didn't know that anybody cared what you, personally, would like for your future. In a way, you are right. Nobody *will* care—unless *you* do!

Perhaps—like so many people—you hadn't even realized that there could possibly be anything different from what there is today—that we *could* make Greater Cleveland a better place to live.

That's the funny part about humans. Even back in the days of the Cavemen, most people accepted their caves as the last word in shelter.

Of course the smoke from the fires did make the place filthy with soot, and it was hard to breathe sometimes. And the path that led to the cave lay directly under a landslide that killed one or two of the family every year. Maybe the cave was half an hour's march from the stream of drinking water, and even farther from the woods where they killed the game and collected the berries they needed for food. But—you know how it is—the folks had done things that way for so long . . . and . . . well. . . .

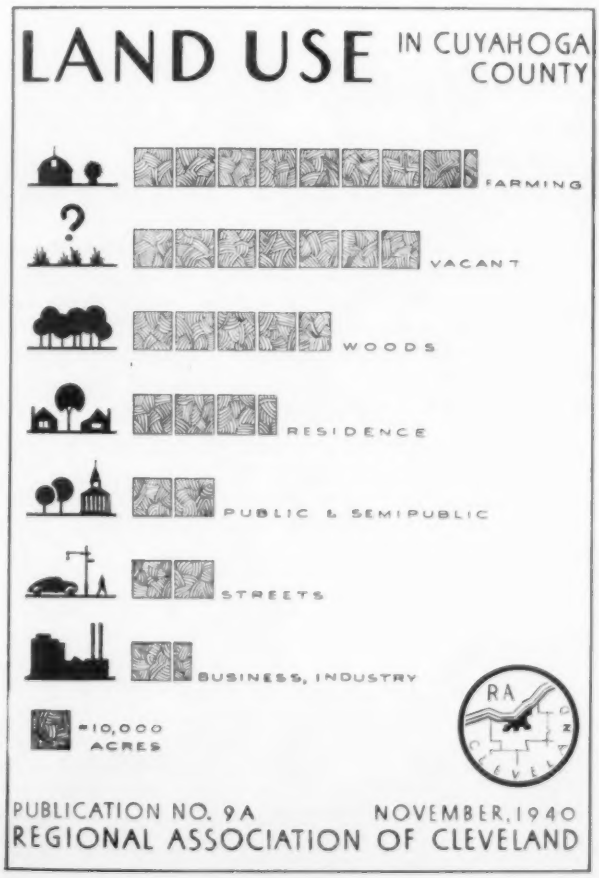
It wasn't until a few of the wiser ones got together and started to think about better conditions (very much as you are doing right now) that their caves were replaced by simple huts which gave them somewhat better light, air, and warmth, and could be built where they were convenient. Even those slight improvements took a lot of planning before accomplishment.

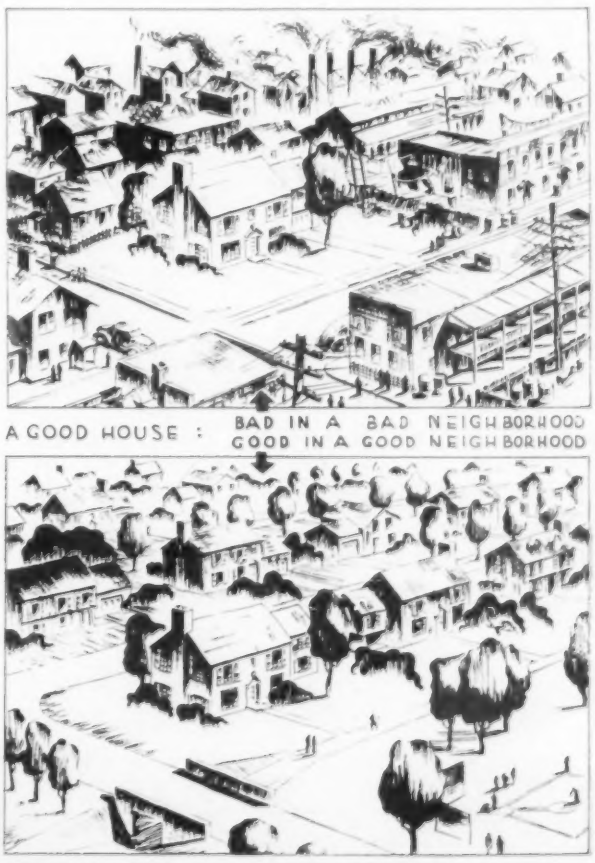
Now, while the cities, streets, and houses of *your* tomorrow will certainly be *different*, they may not be much *better* than you have now. In fact, the sad truth is that they will probably be worse—unless you want them better, unless you *plan* them better, unless you ORDER them better!

In this case, You means a majority of the citizens in our democracy. And that is a lot of people to persuade to do anything.

For instance, after you get through reading this booklet, you will probably be the *only one* in your family that has a concrete idea of how much finer a community we can order for tomorrow. You will know something about how Greater Cleveland got the way it is, and how we can make it better. Perhaps you can explain it to other people, build a picture so that they can appreciate it with you. Perhaps not. It will be an interesting experiment, because you will always run into the lazy, pessimistic type that says, "It's no use. It will always be the same."

Until *enough people* want it better, it probably will be the same. But it is your world, your future, your life. So if you *are* planning to be alive five, ten, fifteen years from today, PLAN.





FROM PUBLICATION NO. 10, REGIONAL ASSOCIATION OF CLEVELAND

Without PUBLIC TRANSIT—Would Our Merchants Be Mid-Street Hawkers?

OF course, we don't mean to imply that people *are* shopping from their cars these days, but our illustration is suggestive of the shopping difficulties which modern traffic congestion is creating in downtown buying areas.

What can be done to keep for central-city merchants the business which is going to outlying areas with less of a traffic problem?

Public transit can do a lot. A modern street car, seating 60 people (40, in a modern bus or trolley coach), can carry as many shoppers as 34 automobiles.* And you don't have to park a street car!

Experience has shown that many users of automobiles are glad to lay aside their car keys for tokens when the transit system is really modern. Public vehicles use street space 12 to 15 times as efficiently as private automobiles (think what that does for the parking problem). Public transit is a traffic solution that takes nothing from the taxpayer's pocket; it will build business, attract new industries, and improve real estate values.

Modern transit vehicles can do all this in a surprisingly short time. Don't you agree that co-operation with your transit company is one way you can make a big contribution to the betterment of your city? General Electric, Schenectady, New York.

*Based on the nationwide city average of 1.75 passengers per automobile

ENCOURAGE PUBLIC TRANSIT—IT'S THE WAY TO MOVE PEOPLE

GENERAL ELECTRIC

107-12-5908

Recreational Clubs for Service Men

ARCHITECTS FOR THE U.S.O. BUILDINGS, ELY JACQUES KAHN AND ROBERT ALLEN JACOBS, NEW YORK

Homelike Structures at Military Camps, Where Soldiers May Find Facilities for Reading, Writing, Games, Social Activities or Relaxation in Off-Duty Hours

COMFORTABLE, homelike service clubs housed in modern, streamlined buildings instead of the barren recreational "huts" of World War days will be provided for soldiers and sailors by the United Service Organizations for National Defense, according to plans announced April 27.

The United Service Organizations, composed of the YMCA, the National Catholic Community Service, the Salvation Army, the YWCA, the Jewish Welfare Board and the National Travelers Aid Association, has designed a program of service to soldiers, sailors and defense workers which will supply them as far as possible the same comfort, spiritual influence and hospitality they have known in their home communities.

Upon entering the service clubs, the men will find themselves in a large lounge 45 x 50 feet. Walls will be of textured wood done in soft colors to provide an effective background for pictures. Windows will be hung with venetian blinds and on one side of the room will be a large fireplace. A "snack bar" or refreshment stand will open into this room on one side, and on the other to a covered, screened porch which will be provided with tables and chairs.

Opening off the lounge will be two smaller rooms, 20 x 30 feet, available for entertaining friends and relatives and for small group meetings. A ladies' parlor 16 x 16 also will be included, where mothers, wives and sweethearts of service men may relax and make needed cosmetic repairs.

At the far end of the lounge will be the entrance to a large social hall, dimensions of which will vary according to the needs of the community. This room will be a minimum size of 45 x 70 feet, and will have reading, writing, game and social facilities. It also will be equipped with folding chairs so that it may be utilized for group activities, entertainments and dramatics.

In certain localities where there is a need for sleeping accommodations over week-ends, cots will be provided to be set up in these larger rooms, where service men may spend the night. Attractive furniture of modern design will be used throughout the buildings.

Wherever necessary, office accommodations for the six participating agencies will be provided, and every unit will have ample office space for administrative purposes. Under certain emergency conditions similar clubs are to be provided for defense workers, including girls and women.

The cost of construction of these proposed units will be borne by the Government, but operating costs will be carried by the United Service Organizations. More than 300 of the units will be built. To meet expenses of the first year's operations, the U.S.O., on June 3, is launching a nation-wide campaign to raise $10,765,000.

Concrete Water Tower

(*Continued from page 42*)

tom part of the form for the next pour.

The intake works for Roma's water plant were installed at a stable position on the Rio Grande River and consist of an intake, cylindrical well and pump pit. The purification plant, necessary to treat the water for domestic consumption, consists of aerator, chemical feed house, mixing basin, rapid sand filter, clear-water well and pump-house. The pump is designed to deliver 250 gallons of water per minute to the elevated tank.

The system was designed to take care of a reasonable expansion of the community and also serve the outlying section of Los Saenz, which was recently incorporated in the municipality.

This undertaking called for expenditures of about $111,000, of which approximately $66,000 came from WPA funds and $44,000 was contributed by the sponsor. Sponsor's funds were supplied by a special bond issue voted in 1938.

The Municipal Bond Market

Recent sales of new issues from April numbers of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$110,000	Hull, Mass., Real Estate Notes	1	1-10 (Ser.)	97
153,973	Springfield, Ohio, Street and Sewer Improvement	1.25	5 Avg.	1.16
225,000	Haverhill, Mass., Relief	1.5	5.33 Avg.	1.38
140,000	Brazoria Co., Texas, Road and Bridge	1.5	4.55 O.-A.	1.48
160,000	Lawrenceburg, Ind., Flood Control	1.75	6.5 Avg.	1.65
100,000	Mason City, Iowa, Airport	2	11.25 Avg.	1.79
160,000	Gary, Ind., Park	2	8 Avg.	1.89
135,000	Brentwood, Pa., School	2	13 Avg.	1.94
145,000	Warwick, R. I., Public Works	2.25	1-29 Ser.	2.2045
750,000	Honolulu, Hawaii, Board of Water Supply Revenue	2.70	17.85 Avg.	2.68
100,000	Mayaguez, Puerto Rico, Municipal	3.5	9.25 Avg.	3.45
102,000	North Bergen Tp., N. J., Refunding	3.75	5.16 Avg.	3.70
3,500,000	Merced Irri. Dist., Calif., Refunding	4	21.16 Avg.	3.93

MOTORISTS respect the motorcycle officer. They like his method too—out in the open, in plain view. He is the real *preventer* of accidents, because his presence on streets and highways keeps drivers from "stepping on it."

That's why more and more cities are improving their traffic accident records by putting on additional motorcycle officers. And for greatest efficiency they are mounting these officers on dependable Harley-Davidson Police Motorcycles. Over 3500 cities — large and small — have chosen Harley-Davidsons because of their unmatched performance in meeting the demands of police service.

Keep *your* department at top efficiency — the Harley-Davidson dealer will gladly explain the advantages of the new 1941 police models. Phone him today.

HARLEY-DAVIDSON MOTOR CO., Milwaukee, Wisconsin

HARLEY-DAVIDSON
THE POLICE MOTORCYCLE

When you write for that catalog, kindly mention THE AMERICAN CITY.

Traffic Control and Facilitation

Conducted by Publications Committee, Institute of Traffic Engineers, 60 John St., New York

Charles G. Beckenbach, Chairman; Merwyn A. Kraft, Vice-Chairman; David M. Baldwin, Martin Bruening, Stephen Butterfield, Edgar F. Copell, John B. Ecker, Fred W. Fisch, Theodore W. Forbes, Milton Harris, E. Emmett Kirwin, Foster M. Kunz, Walter Matthews, Henry W. Osborne, I. S. Shattuck, Matthew Stelskt, Frederick Tarbox

Each Penny Meter Parks 400 Cars a Month

By Rolland B. Marvin
Mayor of Syracuse, N. Y.

PENNY parking is popular and profitable in Syracuse. Seven and one-half months of use of penny parking meters exclusively have completely "sold" the motoring public, the business man, and the city administration on the value of meters as a means of regulation and enforcement of parking.

In April, 1940, when it was decided to install parking meters for a trial period we said:

"Throughout the study of metered parking the basic consideration has been improved parking conditions rather than the amount of revenue which would be derived by the city. This guiding principle is conclusively shown in the fact that the city administration recommends that all meters charge only a cent for 45 minutes of parking. This compares with the usual five cents for that length of time, or one cent for periods not exceeding ten to fifteen minutes.

"In other words, Syracuse will pioneer in penny parking, and at the same time give the service required for improved traffic regulation which traffic experts maintain can be given only by parking meters."

As far as we know, Syracuse, on July 1, 1941, made the largest installation exclusively of penny meters in the country. There are now approximately 1,090 meters in operation in the so-called downtown area. Each charges only one cent, and each gives 45 minutes of parking for the smallest coin in the American monetary system.

When the decision to install penny meters exclusively was announced, there were those who said that motorists would take advantage of the low parking rate to repeat, that is, to put an additional penny in the meter after each 45 minutes, and perhaps remain in one parking space for several periods. There has been no difficulty in this respect since one motorist was caught repeating by the police and paid a $10 fine under a section of our Parking Meter Ordinance, which provides:

> Section 7. It shall be unlawful and a traffic infraction for any person to deposit or cause to be deposited in a parking meter a one-cent coin for the purpose of extending parking or standing time beyond the time designated for parking or standing in the parking space alongside of or next to which said parking meter is placed. Any person violating the provisions of this section shall upon conviction be punishable by a fine not exceeding ten dollars."

Unexpired time is free, but surprisingly few motorists take advantage of the free time, electing to deposit one cent, even though they could get from a few minutes up to 35 to 40 minutes of unexpired time free.

As a result of this feeling on the part of motorists, the city's receipts from penny parking are far in excess of the estimated one-fifth of five-cent parking. Since their installation, the number of meters in operation has ranged from 1,017 to 1,090, and the receipts from these have been as follows:

1940	
July	$2,733.52
August	3,087.00
September	2,968.23
October	3,383.57
November	2,781.07
December	3,069.69
1941	
January	2,792.54
	$20,815.62

This is a lot of pennies—2,081,562, to be exact.

Besides making parking space available in the downtown section at all

Penny for 45 Minutes

Parking meters, like other outdoor municipal equipment, have to take it—The Mark Time in the foreground did: it thawed out and went on operating

DUAL AUTOMATIC PARKING METERS

rate *First in Tests*

of Parking Meters conducted by the
WISCONSIN UNIVERSITY ENGINEERS

113 Dual Automatic Initial Orders and 66 reorders attest satisfaction with mechanism and client relationship with Dual Parking Meter Company.

THE ORIGINAL CARL MAGEE METER
Licensed Under Vehicular Parking, Ltd.

DUAL PARKING METER CO.
Commerce Exchange Building Oklahoma City, Oklahoma

CHEAPER than wood in the long run

Always ready for action to build . . .

- Combined Curb and Gutter
- Straight or Battered Curbs
- Integral Curb
- Any shape of Curb Face
- Sidewalks, etc.

BLAW-KNOX STEEL FORMS

• Blaw-Knox STEEL STREET FORMS will do your street paving work quicker and cheaper. The smooth steel imparts a smooth finish to the concrete, eliminating hand finishing.

Blaw-Knox Forms are built for long service; quick installation and dismantling; and are rigidly braced to hold their position when being filled with concrete.

Blaw-Knox Catalog No. 1527 shows how any design or cross section of work can be accommodated with Blaw-Knox Steel Street Forms. We'll gladly send you a copy.

BLAW-KNOX
BLAW-KNOX DIVISION of Blaw-Knox Co.
FARMERS BANK BLDG. PITTSBURGH, PA.

34

BLAW-KNOX BINS AND BATCHERS • ROAD FORMS • STREET FORMS • CONCRETE SPREADERS • TAMPING ROLLERS • VIBRATORS
CONCRETE BUCKETS • CLAMSHELL BUCKETS • TRUCK MIXERS • STRIPING MACHINES • TURNTABLES • ROAD FINISHERS • STEEL FORMS

CUSHION THE BLOW

Playground Apparatus
Swimming Pool Equipment
Basket-ball Backstops

FREE
Illustrated Catalogs
Complete Lines
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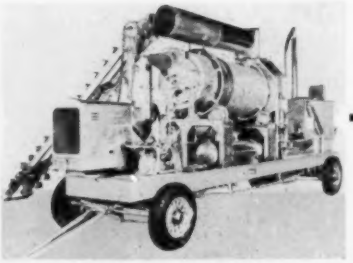
EverWear
Manufacturing Company, Springfield, Ohio



PORTABLE ASPHALT PLANTS

Write for Catalog

Elkhart White Mfg. Co. Indiana

hours of the day—a feature of metered parking that appeals to motorist and merchant alike—parking meters, we have found, do reduce congestion by curtailing cruising and clearing the streets of the all-day or long-period parker. Strict enforcement of parking regulations is possible with fewer police, making police man-power available for other daytime duties, such as protection of school children at school crossings. In these days of police radio and scout cars, when most cities are streamlining their police departments and taking advantage of modern devices, any decrease in the number of men needed for parking regulation enforcement is important and in keeping with necessity.

Through most of the winter of 1939-40, eight sample meters were subjected to rigorous outdoor tests under the supervision of the Department of Engineering and the City Engineer, Nelson F. Pitts. Mr. Pitts' report recommended the installation of the Mark-Time Meter. In his report, the City Engineer said:

"An engineer of this department was given charge of the test and he selected an assistant engineer and two department mechanics to study the meters, formulate test procedure, and carry out the routine of the test. Consultation on test procedure was also made with the heads of the department.

"Throughout this test no advice or help was asked for or received from representatives of the companies manufacturing these meters, and the four men mentioned above worked without benefit of descriptive literature or knowledge of prices."

After the City Engineer made his recommendation, the meter he recommended was subjected to rigid mechanical and metallurgical tests, and from these were drawn the specifications submitted to the manufacturer. The second test showed a very minor difference in value between a more expensive meter manufactured by M. H. Rhodes, Inc., and the meter finally selected for installation in Syracuse. Conservatively, this discovery resulted in a saving of $20,000 on the purchase price of 1,250.

As a result of our seven months' experience with metered parking, we feel that we can unhesitatingly recommend it to cities seeking a solution to parking and traffic problems.

Reports on the Syracuse specifications and the engineering tests are available to cities interested, through our City Engineer.

Interest the Public in Traffic Engineering

By DUDLEY M. DIGGS
General Electric Illuminating Engineering Laboratory, Schenectady, N. Y.

TRAFFIC engineering is a public job, and the public is entitled to know just what is going on and the results obtained. As a comparatively new job, it needs to be "sold" in most cities to the taxpayers. It is also a unique public job, for you are working not only *for* the public but also with the public.

Yours is a job which, of necessity, must change many of the driving and walking habits of the public. These habits are intimately a part of the daily lives of millions. You in your charts can prove them wrong. But don't expect the public to change these habits overnight. They need to be educated as to why these habits are wrong. The "better way" must be thoroughly publicized.

In my travels and associations with traffic engineers, I am impressed with the fact that the engineers who are getting the results they desire are definitely publicity-conscious, because publicity speeds constructive results.

Publicize the Facts

I need not tell you that it is essential to "Get the facts." For example, the average city does not know what percentage of its total accidents, deaths, and injuries are happening during the early dusk and dark hours of the night. Officials of these cities do not appreciate the fact that most of these dusk-and-dark accidents are occurring on a relatively small percentage of their traffic streets. The public, as a whole, knows that night driving is hazardous in some of these cities; but just how dangerous, they do not appreciate. When these and other facts are obtained on night traffic we have the basis for a program.

Once the facts have been obtained, they should be interpreted in words, pictures, and diagrams that will interest the public and which people will understand. For example, you can understand better, and will remember much longer, the "magic eye" than you will the "selenium cell," although they are the same thing.

Contact with local edvertising and promotional men will help create ideas for the presentation of your facts.

Most people read the local newspapers. That is why I believe that they will probably be your best general educational medium. But John Jones may read only the front page and the sports columns, and your story may be on page 3. Or Mary Smith may have time only for the fashion and society pages. That is one reason why you need to use other and supplementary publicity sources, such as the radio, the billboards and bulletin boards, trolley-car and bus poster space. Local magazines, such as the Automobile Club publications, are another source. Undoubtedly you will want to work in cooperation with the local safety council and service clubs. These sources, particularly the safety council, have other media which they release periodically, such as mimeographed information sheets and direct mail. Special devices come under this heading, such as the giant clocks which are being used in some cities to show how many persons were injured and killed the previous year as compared with the present.

How to Get Publicity

The more fortunate traffic engineers may have funds to help them in their educational work. But, for the most part, the average traffic engineer will have to obtain his publicity gratis. As explained before, association with advertising and other promotional men will help you create ideas on how to present your facts. Similarly, the development of newspaper and radio contacts will help you to "break into print" and obtain "time on the air." Personal friendships are not absolutely necessary, but they help in this field as they do elsewhere.

It is essential and important to keep the local press and radio stations in touch with what you are doing. Remember, too, that in cities with more than one newspaper, and with one or more radio stations, these are competing with one another. When a story is released, be sure that these sources get it simultaneously. If a release date is put on the story, such as "Release Monday morning, March 17," these publicity sources will respect that request, and you will rarely find a Saturday afternoon paper printing the story before March 17 and thereby scooping the Monday morning

PRESCRIBED for CONGESTION

MINUTES REMAINING
VIOLATION
TO OPERATE
1. DROP PROPER COIN IN SLOT
2. TURN HANDLE SLOWLY FAR AS POSSIBLE AND RETURN
BOTH RED FLAGS MUST DROP
SEE OTHER SIDE FOR RATE
ANY ONE USING SLUGS OR FRAUDULENT DEVICE TO BE SUBJECT TO ARREST

Here is the remedy for your traffic problem. Install MILLER METERS and you assure greater safety, more business for your city, whether large or small. The flexibility of rate combinations makes the MILLER METER ideal for any and every community. Its durability under all weather conditions has been proven in the many cities where it is now in use. A minimum of policing is required by the MILLER METER because of its great visibility both day and night. Keep your city progressive and modern—write for our descriptive literature that fully explains and illustrates the outstanding features of the MILLER METER.

One Model, One Quality—One Price

Licensed under Vehicular Parking, Ltd. and Miller U. S. Letters Patent.

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1500 South Western Ave., Chicago, Ill.
Exclusive U. S. Distributors of
THE PIONEER COMBINATION PENNY NICKEL

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PARKING METER

The ULTIMATE in . . . PUBLIC PROPERTY PROTECTION

The best protection you can buy for all public property is a Stewart Iron or Chain Link Wire Fence. Stewart Fences beautify as well as protect, and offer a lifetime of dependable, low-cost service. Before buying investigate the exclusive features of Stewart Fences. It will be to your advantage to do so.

Other Stewart Products for public property: Settees, Steel Folding Chairs, Wire Mesh Partitions, Trash Cans, Flag Poles, Bronze Plaques and many others. When requesting literature, please mention products in which you are interested. Sales and Erection offices in principal cities.

"Fence Builders to America Since 1886"

The Stewart Iron Works Co., Inc.
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Cincinnati, Ohio

Stewart IRON and WIRE FENCES

Modern Garbage Collection COSTS LESS THE HEIL WAY

Actual city records show that it costs less to collect garbage with new, modern equipment. Heil municipal equipment is built to do the job more dependably for less money. It will pay you to get Heil recommendations before you buy.

HEIL HYDRAULIC DUMP UNIT

HEIL STREAMLINE STREET FLUSHER

THE HEIL CO.
MILWAUKEE, WISCONSIN HILLSIDE, NEW JERSEY

paper.

Another important thing to remember is not to favor any one newspaper or radio station. In other words, don't release all your stories for the morning newspaper if your city also has a paper published in the afternoon. Be fair, and the press will treat you the same way.

One way to break into print is by talking before your civic organizations. This gives the local newspaper or newspapers the opportunity of reporting what you said. Be sure the papers know when you are going to talk and, if possible, give them a write-up on what you are going to say.

Demonstrations of the use of new traffic aids, for the benefit of the press, will help to obtain "picture publicity."

Local radio stations are civic-minded and often are happy to be of service in the presentation of the traffic engineer's story. This might take the form of an interview, which usually is a most interesting manner in which to present the story. Or a radio skit might be prepared around the facts, with the help of the radio personnel.

—Highlights of a talk given to students of the Bureau for Street Traffic Research, Yale University, on March 13, 1941.

Metering Municipal Parking Lots?

By ARTHUR RICHARDS
Engineer Executive, Larchmont, N. Y.

THE village of Larchmont has made a five-day count of resident and non-resident automobiles parked at the railroad station in the parking plaza of the village and in the parking area at the station located in the unincorporated section of the town of Mamaroneck. In the Larchmont Village plaza, 38 per cent of the parked cars were owned by residents and 62 per cent by non-residents. In the other lot, 3 per cent of the cars were owned by Larchmont residents.

In considering the proposition of developing a railroad station parking area, and after determining the basic costs per car space for such area, a usual procedure would be for the municipal officials to submit the proposition to the voters for the purpose of determining whether to proceed with the improvement and whether such parking facilities should be charged for or furnished free to any and all persons.

If it were apparent from a survey that 60 per cent of the parking area would be used by non-residents, there is little likelihood the citizens would vote to finance the improvement with free parking to non-residents. They might vote for a smaller parking area to accommodate only local residents, with free parking privileges; or vote for a larger parking area with free parking for local residents and charges for non-residents, provided the additional cost could be amortized from such charges within a reasonable period of time.

Inasmuch as the number of Larchmont resident cars at present using the parking plaza can be accommodated in one section at the parking plaza having space for 87 cars, it would seem a sound policy to arrange for installing parking meters at a second section having 93 parking spaces, where a daily parking fee could be charged for non-residents of the village. If at times the 87-car section is filled with resident cars, then the overflow could park in the 93-car section without a parking charge.

If the policy of using parking meters in the 93-car section is adopted by the Village Board of Trustees, it is suggested that the automatic type of meter be used, that two meters be attached to one standard for serving opposite parking spaces at the curb platform, and that a fee of 10 cents be charged for a parking period of 18 hours.

The initial cost of having a meter installed is about $60, and no capital outlay will be required of the village as the meter revenues go to the meter manufacturer until the meters are paid for. It is estimated the revenue per meter may equal $30 per year, and thus require two years' operation before the meters become the property of the village. After that time all revenues would belong to the village and could be used towards the amortization of, and interest on, the parking plaza bond issues, amounting to about $11,500 per year.

About Parking Meters

Parking meters exclude long-time parkers from a congested or business district and thus provide more opportunity for short-time parkers.

Usually, parking meters are installed along streets to permit curb parking for periods up to two hours. When parking periods of longer duration are required, recourse is usually had to commercial parking lots or garages. In many cities publicly owned areas have been developed into parking lots with nominal charges for parking privileges.

Train commuting service in metropolitan districts presents the problem of providing parking areas adjacent to the railroad stations. Railroad companies provide little, if any, parking facilities for durations of more than an hour or so, and because of topographical or other conditions, commercial parking areas may be located a considerable distance from the railroad station.

In Nassau and Westchester Counties, which are adjacent to New York City, the problem of affording station parking facilities has been met, in part, by the municipalities' acquiring land and constructing parking areas at municipal expense, as was done by Larchmont. We are now thinking of metering these lots.

Cincinnati Buying Parking Meters

CINCINNATI has passed the necessary legislation, and is taking bids on parking meters. They will be bought outright, without trial, and for all cash, with no maintenance clause in the contract.

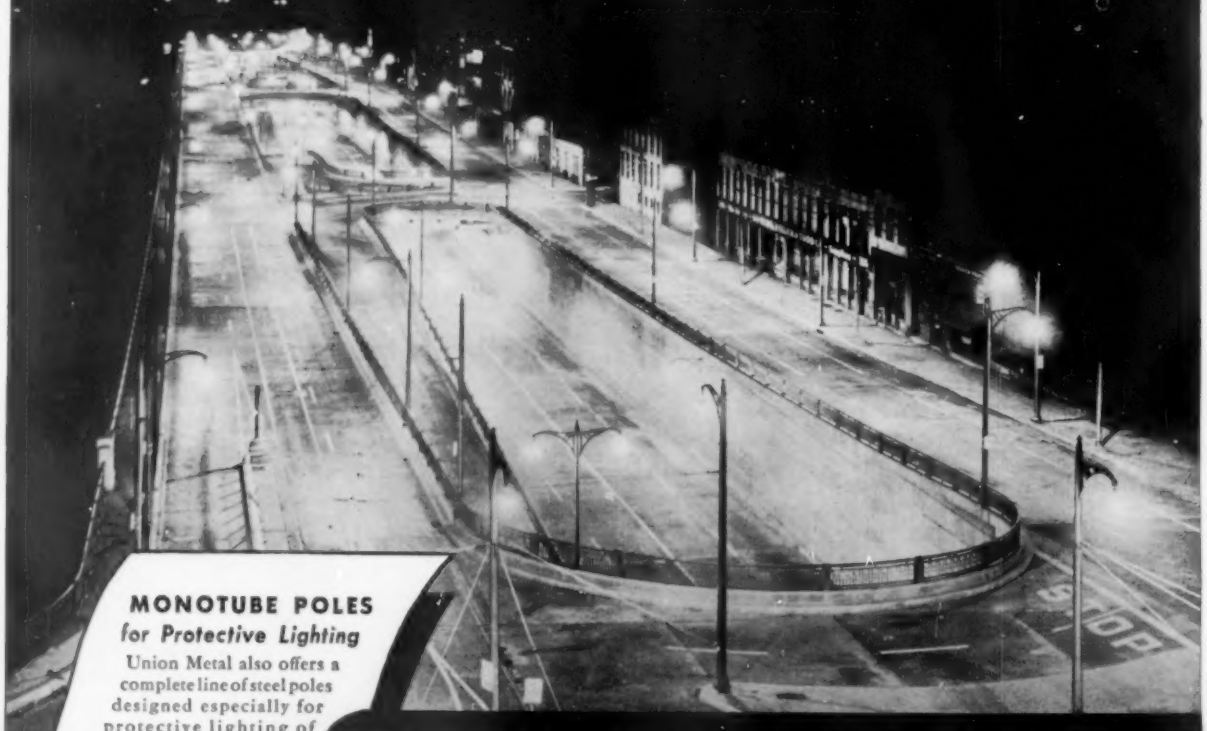
C. G. BECKENBACH,
Traffic Engineer, Department of Public Utilities, Cincinnati, Ohio.

Pittsburgh's Water Street WAS DESIGNED for 24 Hour SAFETY

• Too many modern streets become old-fashioned after sundown for lack of scientific lighting. But not Water Street in Pittsburgh, Pa. Its designers had vision and wrote modern street lighting into the specifications. Result — drivers and pedestrians are accorded the protection of complete visibility from sunset to sunrise, as well as during the daylight hours. Pittsburgh can point to this thoroughfare with real pride because it's designed for 24-hour safety.

Union Metal steel standards contributed much to the effectiveness of this lighting installation. Proper mounting height assures increased visibility. All-steel construction guarantees longer life with minimum maintenance. And the pleasing design of these standards adds to the attractive appearance of this modern thoroughfare.

Write today for copy of Catalog 71 describing Union Metal steel standards for every street and highway lighting service.



MONOTUBE POLES
for Protective Lighting

Union Metal also offers a complete line of steel poles designed especially for protective lighting of power plants, water works, industrial buildings, etc. Write for catalog data today.

THE UNION METAL MANUFACTURING CO.
CANTON, OHIO

Outdoor Lighting
Streets—Highways—Floodlighting

Schenectady's Excellent Lighting Improved with Modern Equipment

SCHENECTADY'S arc street lighting, known for its brilliance for 16 years, is being polished by the substitution of incandescent luminaires which furnish as much light as the arcs, more evenly distributed, and cost somewhat less to service. The reduction in cost of weekly trimming, constant patrol, and constant maintenance due to moving parts, is reflected in a 13.6 per cent reduction in the annual charges for the 258 arc lights replaced in 1940 and the 97 arcs to be replaced in 1941. This will leave 30 twin-arc standards on Erie Boulevard and 120 pendant arc lamps in outlying areas, to be replaced in later years.

The attractive cast-iron King Standards on State Street continue to serve, but no longer with Form 21-Y arc lamps. These have been replaced by General Electric Form 9 twin luminaires of Gleason-Tiebout glass containing 15,000-lumen incandescents. The relative illumination is the same, with the assurance of more continuous operation, for when an arc light goes out, it must remain out until the next day.

The mounting height is 20 feet above pavement. The standards are spaced 100 feet apart, opposite. Thus the amount of generated light on 60-foot State Street is 60,000 lumens to each 100 feet of street, or 600 lumens per linear foot. The average horizontal footcandles of illumination is 1.7.

Checking this installation with I.E.S. Recommended Practice of Street Lighting 1940, covered in the April, 1941, issue of THE AMERICAN CITY, it is seen that the mounting height exceeds the 18-foot minimum recommended for diffusing globes. The spacing is 100 feet, compared with the 100 to 150 feet recommended for very heavy traffic. The footcandles of illumination on the street between curbs is approximately six times the 0.3 footcandle minimum, and half again as much as the 1.2 footcandle average recommended by the new code.

On Nott Terrace and upper State Street, both primary traffic arteries, the Form 10 arc lamps on 14-foot poles have been replaced by an equal number of G. E. Form 81-D luminaires with 15,000-lumen lamps on 20-foot Union Metal standards. The unit illumination amounts to 167 lumens per linear foot. The average horizontal illumination is 1.3 footcandles, which is well in excess of the minimum Recommended Practice. Incidentally, it provides three or four times the visibility furnished by the old installation.

On Secondary Arteries

Comparable improvements have also been made on Barret, Clinton, Jay, North Broadway, and Congress Streets. The 14-foot No. 807 Union Metal poles have been retained, but the arc lamps have been replaced with No. 118 Gleason-Tiebout glassware containing 10,000-lumen incandescent lamps spaced 90 feet apart and giving 0.6 footcandle of illumination on each square foot of pavement. This exceeds by 3 to 1 the minimum requirements for lighting heavy-traffic streets.

The 258 new incandescents cost the city $5,474.60 less per year than the arcs cost, a saving of $21.22 per light.

This year an additional 97 lamps will be changed over, 47 on primary arteries and 50 on secondary arteries, at an annual saving of $23.30 per light.

While any economy is important, the city is primarily concerned over maintaining its position as one of the best-lighted cities in the country. Schenectady, N. Y., is one of the few cities in the United States whose expenditures for street lighting have kept pace with the wheels of progress. For, what a municipality pays for street lighting is an index of the adequacy of the lighting. More money than is necessary can, of course, be spent with obsolete equipment; but money spent for energy to operate inefficient equipment will provide mere quantity of illumination.

Engineers say that $1,400 per mile is the minimum annual cost for which traffic safety lighting can be had. This cost includes energy, maintenance, and capital charges. The city of Schenectady pays $1,761 per mile for its 135 miles of lighted streets, corrected for overlapping intersections.

A Well-Lighted City

Of the 530 cities whose annual payments for street lighting are listed in THE MUNICIPAL INDEX 1940-41, only 12 exceed $1,400, and only 15 exceed $1,000 per mile for their entire system.

Schenectady's comprehensive contract with the New York Power and Light Corporation covers three major charges. The first is a facility charge ranging from $2.25 to $54.80 per 100 linear feet, according to extent and cost (overhead or underground) of the lines. For instance, the minimum rate is for service from an overhead line used for other purposes as well as street lighting. The second item in the rate is a fixture charge. The third item is a lamp charge. The total cost for 1941 is $35,742 for the facility charge and $184,774 for the combined fixture and lamp charges.

Schenectady has a total of 3,385 lamps comprising 1,395 ornamental units, of which 150 are twin lights in the business district, and 1,990 lamps on brackets mounted on wooden poles.

A minor improvement, also scheduled for this year, and expected to save lives, will be the installation of four 10,000-lumen sodium vapor lamps in the underpass at Edison Avenue and Weaver Street, where a number of traffic accidents are occurring.

Thus Schenectady is a city which, though long accustomed to having excellent street lighting, is further improving this lighting by installing the most modern luminaires.

More Deadly than the LUFTWAFFE

are America's ill-lighted streets

In England, during 1940, raiding Nazi bombers took a toll of 29,000 human lives. In the same year more than 34,000 people were killed on peaceful America's streets and highways. And the statistics again reveal that most traffic fatalities occur after sundown on dark streets and highways, where drivers cannot see fatal dangers lurking ahead.

Alabama Highway Lighting (Winner, 1940 Safety With Light Award) Using L-M Luminaires and Mast Arms

How can the massacre be stopped? The U. S. Junior Chamber of Commerce and other public spirited organizations are leading the way by promoting the replacement of outmoded lighting equipment with modern lighting installations as shown at the right. These typical modern L-M street and highway lighting installations eliminate glare, place adequate light on the pavement for good visibility, pay for themselves many times over by saving life and property and increasing community prestige. Get full information on the complete L-M line that includes "Everything You Need In Street and Highway Lighting".

Typical L-M Boulevard Lighting in Bellaire, Ohio

LINE MATERIAL COMPANY

GENERAL OFFICES • MILWAUKEE, WISCONSIN

Street-Lighting Costs in St. Paul

By J. L. CONNOLLY
Bureau of Lighting,
St. Paul, Minn.

THE large tabulation on this page is a detailed analysis of our street-lighting maintenance costs for the year 1940. In connection with this report a brief statement of our maintenance set-up upon which this report is based will be useful.

We purchase all our current from the Northern States Power Co., delivered to the lamp fixture on all overhead lighting and to all feed points on the so-called ornamental or underground-fed lighting. All current for our series lighting, both overhead and ornamental, is metered service for which we paid 2.25 cents per kwh on the overhead and 1.6 cents per kwh on the ornamental. This difference in the rate is due to the fact that on the overhead lighting the utility company owns and maintains all the equipment up to the lamp fixture, while on the ornamental system the company supplies the current to the circuit feed points and we own and maintain all the underground cables, posts, and other equipment.

Energy for the multiple ornamental lighting is supplied from the utility's regular commercial circuits and is paid for on a flat rate per post basis, the costs per post being given in the last column of the table.

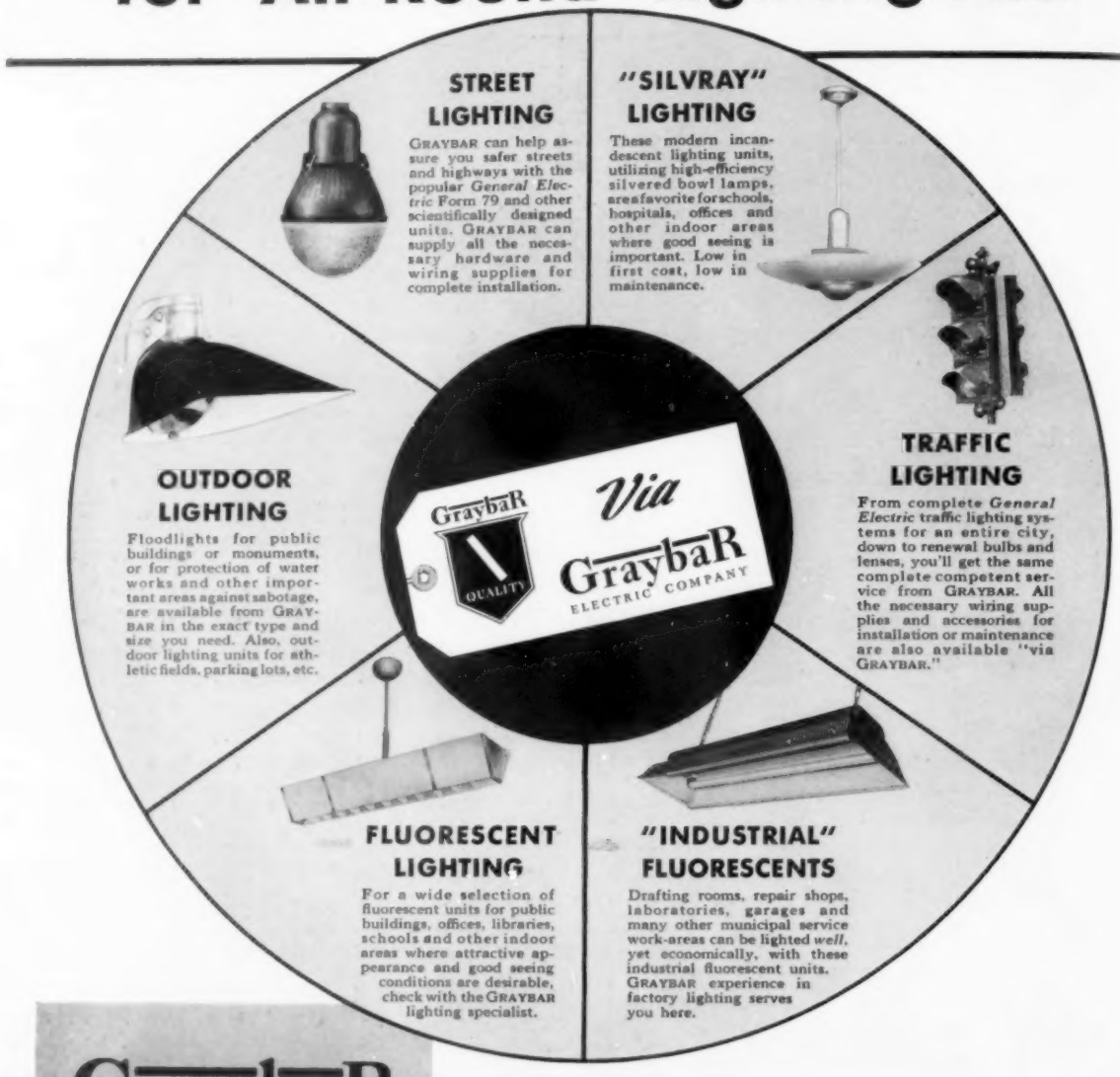
For several years, owing to shortage in funds, we have operated the all-night lamps outside of the downtown section on a short schedule, labeled "B," in which the all-night-burning lamps were out for a two-hour period from 2:30 A.M. to 4:30 A.M. The

STATEMENT OF OPERATING AND MAINTENANCE COSTS, BUREAU OF LIGHTING, CITY OF SAINT PAUL, MINNESOTA
YEAR 1940

Code	Description	Average Number	Burning Schedule	Total Costs		Labor		Globes and Panels		Lamps		Other Expense		Electric Current	
				Total	Per Post	Total	Per Post	Total	Per Post	Total	Per Post	Total	Per Post	Total	Per Post
OVERHEADS	CP														
A	1,000	28	B	$ 1,458	$52	$ 76	$2.72	$	$	$ 85.15	$3.04	$ 43.57	$1.56	$ 1,254	$44.79
	600	221	B	7,466	32	601	2.64	.....	....	600.30	2.63	355.77	1.56	5,909	26.74
	400	8	B	193	24	21	2.72	.....	....	11.90	1.49	12.45	1.56	146	18.36
	250**	4,607	B	91,240	19	12,535	2.72	70.79	....	12,493.65	2.71	7,168.49	1.56	58,972	12.80
	Total	4,864		100,358		$13,234		$ 70.79		$13,191.00		$7,580.28		$66,282	
ORNAMENTAL—SERIES—CANDLEPOWER															
B 1	400 1-light	98	A	2,270	23	425	4.34	34.30	.35	113.72	1.16	118.38	1.21	1,578	16.11
	400 1- "	806	B	16,154	20	3,525	4.37	282.10	.35	646.58	.80	973.65	1.21	10,726	13.31
	400 1- "	766	C	11,243	14	3,326	4.34	268.10	.35	577.00	.75	925.33	1.21	6,146	8.03
B 2	400 2- "	16	A	483	30	39	2.46	2.24	.14	36.40	2.28	19.33	1.21	257	16.11
	400 2- "	16	C											128	8.03
	400 2- "	*146	B	2,656	18	359	2.46	20.44	.14	157.04	1.08	176.37	1.21	1,942	13.31
C 1	250 1- "	821	B	11,263	13	1,662	2.02	451.55	.55	791.20	.96	991.77	1.21	7,366	8.97
	250 1- "	128	C	1,319	10	259	2.02	70.40	.55	143.36	1.12	154.62	1.21	692	5.41
C 2	250 2- "	42	B	1,103	26	360	8.59	7.14	.17	82.88	1.97	50.74	1.21	376	8.97
	250 2- "	42	C											225	5.41
	250 2- "	* 74	B	1,558	21	635	8.59	12.58	.17	157.44	2.13	89.39	1.21	663	8.97
E 1	100 1- " **	3,057	B	31,062	10	7,051	2.31	341.35	.11	7,599.05	2.49	3,692.86	1.21	12,377	4.05
F 1	100 1- "	53	A	605	11	186	3.51	62.54	1.18	32.83	.62	64.02	1.21	259	4.90
	100 1- "	319	B	3,363	10	1,120	3.51	376.42	1.18	198.26	.62	385.35	1.21	1,283	4.05
G 5	100 (1) 5- "	93	A	2,578	27	1,021	10.98	140.90	1.52	57.77	.62	112.34	1.21	455	4.90
	60 (4) 5- "	372	C							168.90	.45			621	6.68
	100 (1) 5- "	146	B	3,923	26	1,603	10.98	221.19	1.52	90.86	.62	176.37	1.21	591	4.05
	60 (4) 5- "	584	C							265.50	.45			975	6.68
	100 (1) 5- "	* 38	B	567	14	286	7.55	57.57	1.52	23.63	.62	45.90	1.21	153	4.05
	60 (4) 5- "														
	Total (posts)	6,603		$90,155		$21,863		$2,348.82		$11,142.42		$7,976.42		$46,823	
ORNAMENTAL—MULTIPLE—WATTS															
J 1	75 1-light	183	B	2,583	14	301	1.65	.....	....	134.40	.73	221.06	1.21	1,926	10.50
K 1	100 1- "	15	A	233	15	25	1.70	.....	....	9.90	.66	18.12	1.21	180	12.00
	100 1- "	33	B	513	15	56	1.70	.....	....	21.90	.66	39.86	1.21	395	12.00
K 3	100 (1) 3- "	* 4	A	166	41	103	25.90	7.74	1.93	2.70	.70	4.83	1.21	47	12.00
	100 (2) 3- "														
	100 (1) 3- "	224	A	11,967	53	5,800	25.90	433.22	1.93	148.50	.66	270.59	1.21	5,151	23.00
	100 (2) 3- "	448	C							162.70	.66				
L 1	150 1- "	20	A	427	21	63	3.16	4.60	.23	13.94	.70	24.16	1.21	321	16.00
	150 1- "	208	B	4,441	21	658	3.16	47.84	.23	144.72	.70	251.26	1.21	3,339	16.00
	150 1- "	130	C	2,479	19	411	3.16	29.94	.23	54.40	.42	157.04	1.21	1,827	14.00
L 2	150 2- " **	* 44	A	1,233	28	252	5.74	24.33	.55	199.50	4.53	53.15	1.21	704	16.00
	150 2- " **	209	A	8,139	38	1,331	6.37	115.58	.55	996.00	4.77	252.47	1.21	5,357	25.00
	150 2- "	209	C							86.97	.42				
High Posts	300 2- "	* 4	A	150	37	23	5.75	2.21	.55	8.80	2.20	4.83	1.21	112	28.00
	300 2- "	61	A	3,320	54	388	6.37	33.73	.55	125.40	2.06	73.69	1.21	2,637	46.00
	300 2- "	61	C							61.60	1.01				
	500 2- "	12	A	1,022	85	76	6.37	6.64	.55	29.44	2.45	14.50	1.21	890	72.00
	500 2- "	12	C							5.52	1.46				
M 1	200 1- "	101	B	2,404	23	172	1.70	9.09	.09	75.42	.75	122.01	1.21	2,025	20.00
	200 1- "	92	C	1,885	20	156	1.70	8.28	.09	41.04	.45	111.14	1.21	1,568	17.00
N 1	300 1- "	7	A	226	32	5	.83	.....	....	17.16	2.45	8.46	1.21	195	28.00
P 1	150 goosenecks	12	B	301	25	48	4.02	.....	....	8.04	.67	14.50	1.21	230	19.00
	300 "	31	B	1,361	43	305	9.87	.....	....	54.56	1.76	37.45	1.21	963	31.00
	300 O.H. "	11	B	490	44	39	3.60	.....	....	19.36	1.76	13.29	1.21	418	37.50
	Total (posts)	1,401		$43,350		$10,220		$ 723.20		$ 2,421.97		$ 1,092.41		$ 28,292	
MISCELLANEOUS		49		631	12	217				32.80		59.19	1.21	321	
	GRAND TOTAL	12,917		$234,496		$45,536		$3,142.81		$26,788.19		$17,308.30		$141,720	

* Midnight lights not burning.
** Silvray.
BURNING SCHEDULE: A—3,861:00 hours, dusk to dawn; B—3,189:05 hours {dusk to 2:30 A.M.; 4:30 A.M. to dawn. C—1,922:05 hours, dusk to midnight.

LOOK TO GraybaR
for "All-Round" Lighting Aid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GRAYBAR can help assure you safer streets and highways with the popular *General Electric* Form 79 and other scientifically designed units. GRAYBAR can supply all the necessary hardware and wiring supplies for complete installation.
"SILVRAY" LIGHTING
These modern incandescent lighting units, utilizing high-efficiency silvered bowl lamps, are favorite for schools, hospitals, offices and other indoor areas where good seeing is important. Low in first cost, low in maintenance.
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From complete *General Electric* traffic lighting systems for an entire city, down to renewal bulbs and lenses, you'll get the same complete competent service from GRAYBAR. All the necessary wiring supplies and accessories for installation or maintenance are also available "via GRAYBAR."
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Drafting rooms, repair shops, laboratories, garages and many other municipal service work-areas can be lighted *well*, yet economically, with these industrial fluorescent units. GRAYBAR experience in factory lighting serves you here.
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Floodlights for public buildings or monuments, or for protection of water works and other important areas against sabotage, are available from GRAYBAR in the exact type and size you need. Also, outdoor lighting units for athletic fields, parking lots, etc.
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LIGHTING AND TRAFFIC SPECIALISTS help you get the most from this all-round supply service

As a part of its complete service to municipalities on electrical and public safety needs, GRAYBAR acts as "lighting headquarters" for the needs of cities and towns throughout the country. When you need "more light on the subject"—call GRAYBAR.

Throughout GRAYBAR'S nationwide network of distribution points, specialists are always "on call" to help plan lighting systems or advise on other electrical problems. Whatever your problem, from lighting an athletic field to lighting a hospital laboratory, there's a GRAYBAR Man available with first-hand experience along the line you require. Next time you're in doubt, call your local GRAYBAR office for this service.

HORN & TELETYPE FIRE ALARM SYSTEMS | GENERAL ELECTRIC TRAFFIC SIGNALS | WESTERN ELECTRIC POLICE RADIO | GENERAL ELECTRIC STREET LIGHTING

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Mention THE AMERICAN CITY—it helps.

schedules under which the various lights were operated are as indicated under the "A," "B," and "C" schedules at the foot of the tabulation given on page 99.

This year we are again operating under our full-time schedule and no lights will operate under the "B" schedule. In doing this the utility company granted a reduction in the rates from 2.25 cents to 2 cents per kwh on the overhead, and from 1.6 cents to 1.5 cents on the ornamental on all metered service. This means that we give full-time service at very little additional cost.

It will be noted that the labor costs per post under code "K3" are much greater than on all other items. This is because these posts are the only ones left on our system which are individually controlled by manual operation.

The column marked "Other Expense" covers all expense for materials, warehouse supervision and expense, and automobile maintenance, but does not include administrative costs. This cost was apportioned equally per unit, being separated only as to overhead and ornamental systems, since this item is a comparatively small portion of the total.

Low-Cost Street Lighting in Tacoma

ENERGY, OPERATION AND MAINTENANCE of all street lighting in the city of Tacoma, Wash., is furnished by the Light Division of the Department of Public Utilities. Standard bracket lights have been paid for out of the general city fund. Ornamental lights on special standards and the underground cable were paid for by local improvement districts. These investments amount to the following values:

Paid for by	
Municipality, 205½ miles	$ 91,315
Local districts, 56¾ miles	622,494
	$713,809

The rate for all street-lighting energy within the city was recently reduced (retroactive to January 1, 1937) to 0.3 cents per kwh. Outside the city limits the rate remains 0.5 cents per kwh. The maintenance charge, both inside and outside the city limits, is cost plus 15 per cent for overhead. Total costs for 1940 were as follows:

Energy, 7,263,907 kwh	$23,182
Maintenance	48,779

Thus the average cost per kwh was 0.9907-cent.

Driving to the City at Night

STARTING at the top, picture yourself a farmer, a stranger, or a citizen driving to town. Without strain, you drive along the scientifically lighted highway, turn into the first residential street, then on to a residence street nearer to the business district, and all at once you are on Main Street. You arrive, moreover, with the comfortable knowledge that the ride home or to the next city will be equally safe and pleasurable.

As these are photographs, they are no dreams of the lighting of tomorrow. This is the traffic safety lighting available everywhere today. What is traffic safety lighting? It is merely that quality of lighting which makes objects sufficiently visible to avoid collisions.

Not only is the lighting on each of these streets designed for the habitation and traffic character of the street, but in each instance it exceeds the minimum recommendations of I. E. S. Recommended Practice of Street Lighting 1940, presented here in April, 1941.

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Koehring Mud-Jack raises sunken concrete . . . walks, curb and gutter, driveways, streets, highways, etc., eliminating reconstruction costs. Write for the new Mud-Jack Bulletin illustrating applications and describing the Mud-Jack Method.

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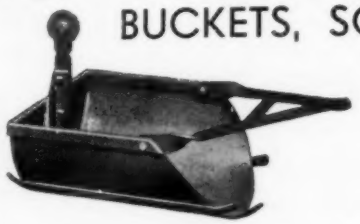
ALL TYPES ROOT DRAGS, BUCKETS, SCOOPS, etc.



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Everything in Sewer Cleaning Equipment

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5210 W. State St. MILWAUKEE, WIS.

HALF-MILE-RAY
The *Best* Light on the Market!

For night emergencies all City Departments need these *Powerful, Portable Emergency Lights.* This statement is a positive fact as already hundreds of City Departments are NOW using these lights.

Finest in Construction
Absolutely Dependable
Send for Catalog AC-5

THE PORTABLE LIGHT CO., INC.
25 Warren Street New York, N. Y.

WHO ADVOCATES "AIR LOCKING" THE PUBLIC HEALTH?

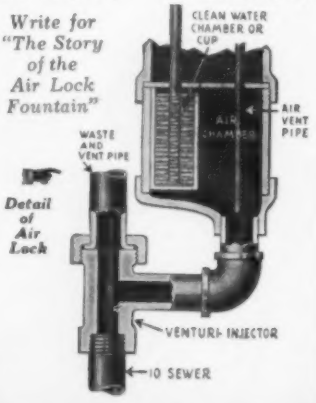
Health Boards realize an ever-present danger in a clogged sewer that, some time, somewhere, may back up and contaminate the fresh water supply of an Outdoor Drinking Fountain.

These sentinels of the public health advocate the installation of the Murdock AIR LOCK Outdoor Drinking Fountain. This fountain defies the vandal. Is anti-freezing. Maintenance practically nil.

The Murdock Mfg. & Supply Co.
426 Plum St. Cincinnati, O.

Patent Pending

Write for "The Story of the Air Lock Fountain"



Detail of Air Lock

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Cast Iron Pipe

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Cast Iron Pipe and Special Castings, Bell and Spigot, Flange, Flexible Joint, Culvert, Milled and Plain End Tubes, Cylinders, Flanged and Bell and Spigot Fittings, High Pressure Fire Service Pipe, Warren Short Body Specials, Threaded End Pipe.

Size 2 to 84-inch

Pipe manufactured in accordance with standard specifications adopted and approved by water works associations and engineers.

Warren Foundry & Pipe Corp.
11 Broadway, New York City

Warren Pipe Co. of Massachusetts
75 Federal Street, Boston, Mass.

Prepared by
FRANK B. WILLIAMS
Author of "The Law of City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
EDWARD M. BASSETT
Author of "Zoning" and of "The Master Plan"

Planning Commission—Platting

ARKANSAS.—*Newton v. American Security Co.*, Supreme Court, February 17, 1941, reported in 148 S. W. 311.—This is an action by the American Security Company, owner of land in Pulaski County, within five miles of the city of Little Rock, for a mandamus to compel Newton, Clerk of the Circuit Court and ex officio Recorder of Pulaski County, to record a plat. The County Planning Commission had adopted a "master plan" showing county roads of a width of 60 feet, and the plat submitted by the landowner showed two roads on its property platted at a width lacking 10 feet of this width. The plat was submitted to the City Planning Commission of Little Rock, the platting authority for that territory. The County Planning Commission refused to approve the plat, and the platting authority refused to give its sanction to it. For this reason the recorder refused to record it. And the Court upheld him in so doing.

The landowner claims that a portion of his property is being taken without compensation, contrary to the constitution of the state. But no one is trying to take his property; the landowner is seeking to file a plat, and there is no law to compel him to do so. When the property is taken, to be used for road purposes, compensation will be due, and will undoubtedly be paid.

The landowner, prior to submitting his plat, executed a bill of assurance providing that no building should be erected nearer than 50 feet to the outer line of the road in question as shown on its plat. A building was erected pursuant to such building line, and the company claims that to dedicate an additional 10 feet would be a violation of the building restriction and cause it much trouble and expense.

Non-Conforming Use

MARYLAND.—*Chayt v. Board of Zoning Appeals*, Court of Appeals, December 13, 1939, reported in 9 A. 2d, 747.—This is an action by a neighboring landowner to prevent the erection of certain commercial buildings not permitted by the zoning ordinance in that locality. The land in question is in a residential district, and was purchased by the Maryland Jockey Club, a legal non-conforming use, for future expansion prior to the adoption of the ordinance. The Jockey Club now seeks to use the land for commercial purposes on the ground that by such purchase it became a non-conforming use.

On this question the Court decides that the long-contemplated use of the lots for a given purpose cannot be claimed as a use for that purpose. Existing use means the utilization of the premises for a given purpose so that they may be known in the neighborhood as being employed for that purpose: e. g., the conduct of a business.

That the holding of the land for expansion might be a natural incident of the business does not affect the problem.

It should be noted that the land was separate from, and had no connection with, the land in use as a club except common ownership. The plan of expansion was only a plan, not a use.

Zoning Ordinance—Delay Pending Amendment

NEW YORK.—*Dubow v. Ross*, 22 N. Y. S. 2d, 610 (Supreme Court, July 12, 1938).—This suit is an application for an order of mandamus to compel the village of Lynbrook to issue a permit to Morris Dubow to conduct an automobile wrecking business.

Dubow on November 10 mailed an application for the permit, which he filed November 18. At that time there was no restriction against this business in the industrial zone in which Dubow's land was situated. The Police Commissioner approved the application, and nothing further remained to be done but to issue the permit. The village authorities refused to issue the permit because they deemed it to be against the best interests of the village to have an automobile wrecking business on the site proposed. Thereupon they prepared an amendment to the zoning ordinance that would prohibit the business on the proposed site. This amendment took effect December 6.

Held by the Court that the village authorities exceeded their authority in refusing to issue the permit, which was applied for in ample time to have it issued before that date.

Mapped Streets

PENNSYLVANIA.—*City of Hazleton v. Lehigh Valley Coal Co.*, Supreme Court, October 28, 1940, reported in 16 A 23.—The Coal Company, under a reservation in a deed, proposes to remove the minerals under certain lands upon which two streets are shown on the city map. By virtue of these mapped streets the city in this action seeks to prevent the company from so doing. The city has never acquired any title to this land or treated it as public streets.

The Court in deciding for the company, states the law to be that "the placing of a street on a city plan confers no right to the use of the highway upon any one." Such a street has no existence except on paper.

EDITOR'S NOTE.—Obviously, as stated by the Court in the above case, the mere making of a street plan, and the placing of a street upon it is merely an indication of an intention to have a street at the given location and has no binding legal force whatever. In the early part of the last century and for many years thereafter, various states, in the attempt to give the street plan some legal force, provided that if a building was placed in the bed of a mapped street, the owner could recover no compensation for it if, later, the land were taken for the construction of the street. These crude statutes were uniformly declared unconstitutional as a taking of property without compensation. It is only of late years that we have succeeded in drafting statutes, with provisions for this purpose and others, which are succeeding in winning the approval of the courts. The reader in this connection is referred to the leading case of *Headley v. City of Rochester*, 272 N. Y. 197, 5 N. E. 2d, 198, digested in these Notes for February, 1937; and, for a discussion of somewhat earlier phases of the subject, to Model Planning Laws by Bassett, Williams, Bettman and Whitten, being Harvard City Planning Studies, VII, Harvard University Press, 1935.

*"A Second Arverne Bay Case"**

The case of *Devore v. Blake*†, . . . has come to be known as the "Second Arverne Bay Case," . . . *Arverne Bay Construction Co. v. Thacher* (278 N. Y. 22)‡; for the reason that similar issues are raised with respect to property located but two blocks from the property which was the subject of that case and in the same use zone.

Corporation Counsel for the City of New York, in the conclusion of his brief before the Appellate Division, sought to lay down the following principle which would effect a limitation on the implications of the Arverne Bay case:

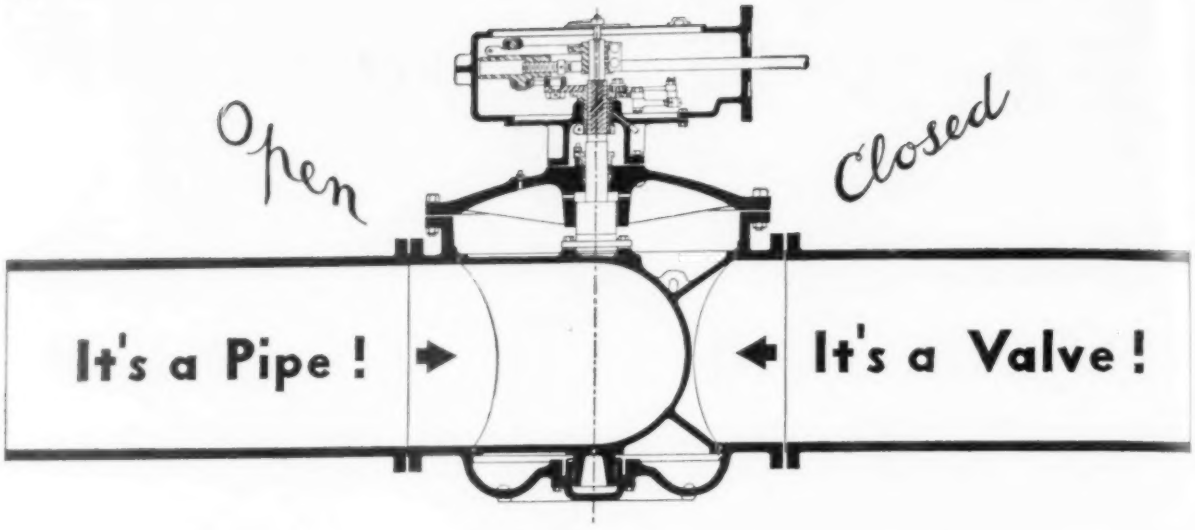
> "We therefore suggest that the rule ought to be that a classification is not void unless, by capricious irregularity of district use lines, the aggrieved property owner's land is virtually an enclave in the midst of alien uses. If those uses conform to the current regulations for the *locus in quo*, the classification of the plaintiff's land is probably arbitrary and void. But if they are merely tolerated survivals which presumably will eventually disappear, the classification is not void, but the plaintiff may seek relief from the body intrusted with the power to grant variances, conditioned as to duration or otherwise as the public interest may require. And the same is true where the plaintiff's inability to devote his land, without loss, to conforming uses is traceable to such negative causes as the failure of developments or ameliorating factors to materialize as rapidly as was expected when the regulation was adopted."

The Devore case, decided in favor of the city by the Appellate Division, was to be argued before the Court of Appeals on April 14, and the opinion will be read with interest.

* From the Zoning Bulletin of the Regional Plan Association of New York.

† Reported in our Notes for this month.—Ed.

‡ Reported in our Notes for July, 1938.—Ed.



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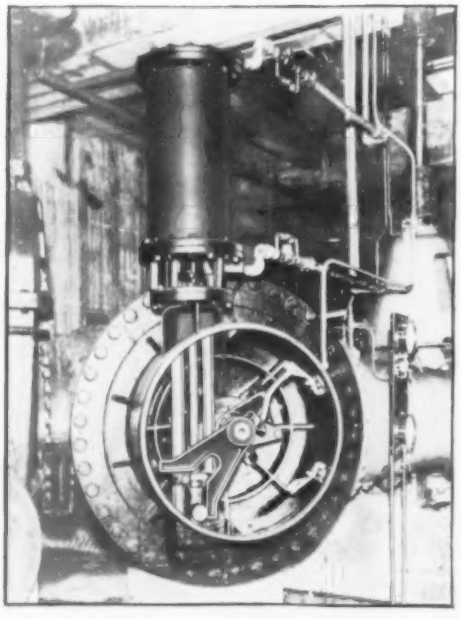

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Municipal Law Notes and Decisions

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CHARLES S. RHYNE, Executive Director, and JOHN A. McINTIRE, Consultant

Municipal Aid to the Federal Government in the National Defense Program

One of the current legal problems of cities is how far a city may go in offering financial support to the Federal Government in its efforts to carry out the National Defense Program. Direct Federal-municipal interrelations, even before the present emergency, through a series of undertakings, including the public works program, the work relief program, the public housing program, and the civil airports program, have already developed administrative channels and techniques. This groundwork, developed to meet an internal emergency, has become a keystone in the structure erected to meet a foreign emergency through Federal-municipal affiliations; Federal funds, policies and plans have been transmuted into military airports, defense housing projects and defense facilities.

The rapid expansion of the Defense Program and the necessity for accelerating the development of defense projects, particularly airfields, has induced a number of cities to acquire land, either within or adjacent to their corporate boundaries, for donation to the Federal authorities. In a number of recent cases, the issue of the power of a city to purchase land for donation to the Federal Government, particularly for national defense projects, has been affirmatively settled by the courts. In *McNichols* v. *City and County of Denver*, 101 Colo. 316, 74 P. (2d) 99 (1937), the power of a city to buy land within its jurisdiction and give it to the United States to be used as a site for an air corps technical school and bombing field was validated. The Court held that a proposed bond issue by the city and county to raise funds to buy the land was for a proper local and municipal purpose. "The mere fact that the control and management of the air school will be retained by the Federal Government through the War Department obviously does not create an exclusive Federal purpose," stated the Supreme Court of Colorado. In this case, the immediate benefits of increased local employment from the Federal funds disbursed in connection with the project provided the Court with an effective analogy with the public works and work relief programs. Likewise, the Court cited with approval the advantages accruing to the community from the stimulation of air transportation service to Denver, beautification of the suburbs of the city, increase in population brought about by the advent of the school, protection of the city from possible future air raids, and the general promotion of trade and industry.

In another recent case, *Miles et al* v. *Lee et al*, 284 Ky. 39, 143 S. W. (2d) 843 (1940), the use of the power of eminent domain by the Louisville and Jefferson Air Board (a statutory corporation financed by tax revenues levied by the city of Louisville, Ky., and by Jefferson County) for the immediate acquisition of property for the extension of facilities of its airport in order to lease the port at a nominal rental to the United States Government in connection with the National Defense Program, was declared valid. Owing to the excessive prices demanded by the owners of the land, the Board instituted condemnation suits. To complicate matters, all current revenues of the Board had been budgeted for other expenditures; hence, the Board could not legally contract a debt for the amount needed to purchase the land.

The condemnation suit was tried and a jury verdict awarded. While the suit was pending, a number of taxpayers living in the proximity of Bowman Field filed an injunction suit naming as defendants the Air Board, the Fiscal Court, the City of Louisville, and the various banks which were to provide the purchase money for the tract. The plaintiffs sought to enjoin the defendants from acquiring the land, on the grounds that the Fiscal Court was obligating itself for an indebtedness beyond its current budget, that the Air Board was doing likewise, that the banks were doing an *ultra vires* act in agreeing to lend the money, and that the establishment of the airfield for use by the War Department was a nuisance and that the airfield should be removed into a remote section that was not residential. Despite the financing plan whereby a group of banks advanced the funds for the acquisition of the property in exchange for a purchase money lien on the land and the assurance of the Board that a sufficient tax would be levied during the next year to enable payment of the lien, the Court upheld the Air Board. Constitutional and statutory debt restrictions were declared not violated by the plan, because the Air Board was not obligated, nor was the county, to any general payment.

The power of local subdivisions to spend money for public purposes of national scope has been frequently upheld. *Winchester* v. *Corinna*, 55 Me. 9, 16 (1886) held that the Legislature had power to confer authority upon towns to offer to pay bounties to soldiers who had volunteered and served under its quota. In other words, in situations of common peril, the interests of the people of the states and of the United States are identical. See also *Butler* v. *Putney*, 43 Vt. 481 (1870); *State ex rel. Bates* v. *Richland*, 20 Ohio St. 362 (1870); *Comer* v. *Folsom*, 13 Minn. 219 (1868); *State ex rel. Atwood* v. *Johnson*, 170 Wis. 251, 175 N. W. 589 (1919); *State ex rel. Morris* v. *Handlin*, 38 S. D. 555, 162 N. W. 380 (1917). See other cases in Hill, *Report of Public Housing Committee*, "Municipalities and the Law in Action for 1940."

Numerous cases have upheld the contribution of city funds to the United States for the acquisition and construction of national parks. In *Frooman* v. *City of St. Louis, et al.* 337 Mo. 933, 88 S. W. (2d) 189 (1935) the Court held that municipal contributions for the national park located within the city limits was for a public and corporate purpose. Likewise, the United States was held not to be a corporation within the purview of the constitutional prohibition of municipal gifts or loans of credit to corporations. Also, numerous cases have held that the grant of Federal park land to a board of education for erection of a high school or other local development does not prevent the city from raising the money necessary to pay the city's share of the cost of the project. *Spano* v. *City of Middletown*, 7 N. Y. S. (2d) 14, 169 Misc. 228 (1939).

Another interesting case apropos to the general discussion is *State* v. *Gordon*, 138 Fla. 312, 189 So. 437, 440 (1939), in which the Court declared that:

"A governmental project may respond to a municipal, county, state or Federal purpose, or all may coalesce in the same project, but that fact does not inhibit the county, state or Federal Government, any one, or all of them from contributing to it."

This Court in approving the establishment of the Duval County Air Base Authority, a special statutory taxing district created to aid the United States, by acquiring and paying for such lands as required, to establish a naval air base also said:

"The State Militia by law articulates with the national Army in time of war, and cases are too numerous to relate in which states, counties, and municipalities by legal fiat have aided in the development of projects that were essentially Federal but in which the local entity had an abiding interest. *Gilbert* v. *Minnesota*, 254 U. S. 325, 41 Sup. Ct. 125, 65 L. ed. 287; *Gustafson* v. *Rhinow*, 144 Minn. 415, 175 N. W. 903; *State* v. *Clausen*, 95 Wash. 214, 163 Pac. 744; *Stockton* v. *Powell*, 29 Fla. 1, 10 So. 688, 15 L. R. A. 42. These cases are typical and might be extended to great length. They dispel the idea that the question of national defense is exclusively Federal."

The *Clausen* case reviews numerous decisions in which the courts have approved legislative acts authorizing counties, municipalities and other governmental entities to combine for the construction and support of schools, armories, and other public projects.

Seemingly, then, the fact that the expenditure of local funds results in defense facilities for the Federal Government is no bar to state, county, or municipal contributions if the developments also benefit the local governments. *Commissioners of Escambia County* v. *Board of Pilot Commissioners of Port of Pensacola*, 52 Fla. 197, 42 So. 697 (1906); *Stockton* v. *Powell*, 29 Fla. 1, 10 So. 688, 15 L. R. A. 42 (1892). Further, the term "municipal purpose" has become synonymous and interchangeable with "public purpose" and "governmental purpose." This trend, in itself, has made a noteworthy contribution to the legal precedents with respect to municipal aid to the Federal Government. In the main, the financial ability of a city to afford donations of land, moneys, or credit to the Federal Government becomes the only barrier to such gifts, since their public purpose may be evidenced without great difficulty.

Contracts—Extra Compensation

A city engineer of the city of Marysville had no authority to bind the city for the payment of extra compensation for work or material which a contractor is bound to furnish under his agreement. *Atletwed* v. *City of Marysville*, 294 N. W. 110 (Mich. 1940).

Finance—Debts—Limitations

A scheme of financing whereby the lender of the funds agrees to look only to property pledged, and that he will not have a claim against the general credit of the city, does not avoid the constitutional limitation that the bond issue must be approved at an election by the freeholders. *Clover Leaf, Inc.* v. *City of Jacksonville*, 199 So. 923 (Fla., Feb. 10, 1941) Cf. *Miles* v. *Lee*, 143 S. W. (2d) 843 (Ky., 1940).

Intoxicating Liquors—Prohibition

The ordinance of the city of Riverside making it unlawful for any person to be intoxicated in a public place or in any place open to public view is not unconstitutional on the ground that it forbids the drinking of intoxicating liquor in public places and is therefore repugnant to the state law which specifically provides for and allows the sale of intoxicating liquors. *Ex parte Boza*, 106 P. (2d) 29 (Cal. 1940).

Ordinances—Enforcement

A person prosecuted under a municipal ordinance of Miami has no defense on the ground that the authorities have failed to enforce the same ordinance against other persons in his position. *Stocks* v. *Lee*, 198 So. 211 (Fla. 1940).

Public Utilities—Creation and Status of "District"

Act authorizing the creation of a "district" for the purpose of operating water, sewer, or fire-protection systems upon the determination of a county judge that "public convenience and necessity" requires it, does not invalidly delegate public legislative power, and the district so created is a municipal quasi-corporation and may be exempted from taxation and otherwise treated as a public body. *First Suburban Water Utility Dist.* v. *McCanless*, 146 S. W. (2d) 948 (Tenn., Feb. 1, 1941).

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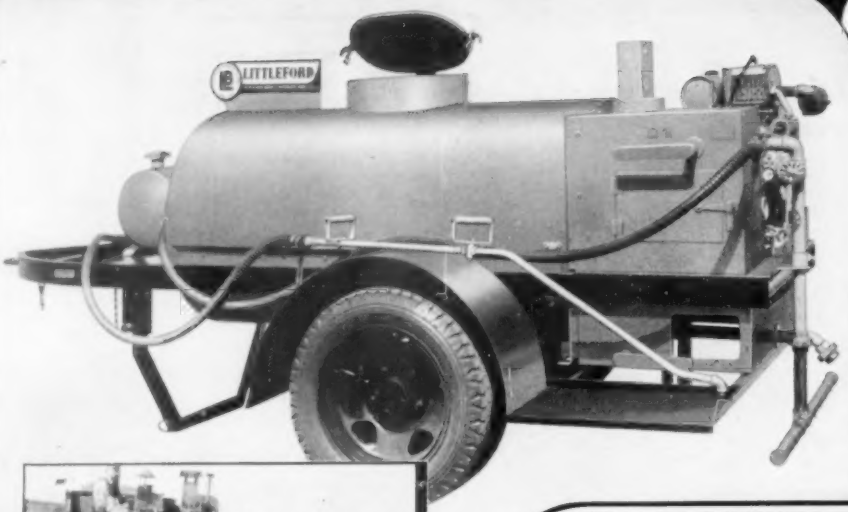

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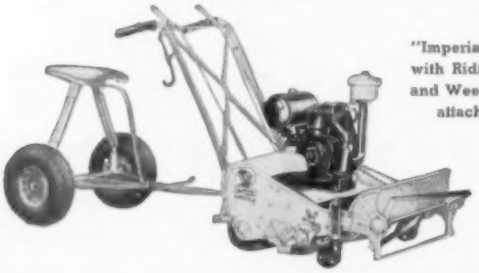

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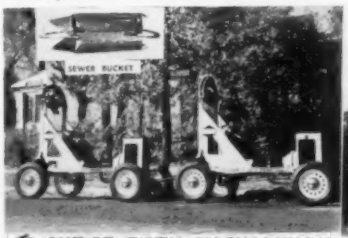

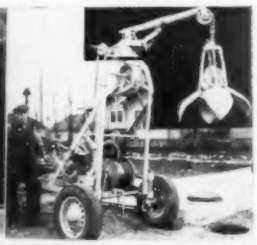

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Planning Commissions

The Planning Function in Urban Government.—By Robert Averill Walker, Ph.D., Associate Administrative Analyst, Office of Budget and Finance, U. S. Department of Agriculture. The University of Chicago Press, Chicago, Ill. 1941. *xxi* + 376 *pp.* $3.00 *from* THE AMERICAN CITY.

Walter H. Blucher, Executive Director of the American Society of Planning Officials, writes of this book: "We do not hesitate to say that every person interested in planning *must* obtain a copy of this book, which is one of the most important to be issued in recent years." Unlike most of the existing literature on city planning, which is either promotional or technical in character, this book is a study of the planning agency and its relation to other branches of the city government—what planning agencies are doing and why they have not been more successful. Based on a year's field study of 37 cities in the United States, its four parts cover: the development of the planning function; types of organization for planning; case studies in urban planning, including a section on the history of planning in Chicago; and findings and conclusions (see these on p. 43.).

Refuse Collection

Planning Refuse Collection Operations.—American Public Works Association, 1313 E. 60th St., Chicago, Ill. 1941. 48 *pp.* 50c.

This is the seventh of the preliminary chapters of the volume, "Refuse Collection Practice," now in preparation under the direction of the Association's Committee on Refuse Collection and Disposal. Chapters of the volume already published dealt with local conditions, refuse-collection methods, and refuse collection equipment. This chapter considers the coordination of these three factors for the most efficient collection operations, discusses routing and scheduling, and describes refuse collection plans in selected cities.

Traffic and Transportation

Report of Traffic and Transportation Survey.—Work Projects Administration project, supervised by the Transportation Engineering Board, City of Los Angeles, Calif. Published by the Citizens Transportation Survey Committee, in cooperation with the Haynes Foundation. Apply to the Committee, 324 H. W. Hellman Building, Los Angeles, Calif. 1940. 100 *pp.*

Without attempting a full analysis, this report contains factual data upon which conclusions and recommendations can be based. It covers existing mass transportation facilities, the use of private motor vehicles, and statistics of community development that affect transportation and traffic.

Land Subdivision Control

Subdivision Regulations—An Analysis of Land Subdivision Control Practices.—By Harold W. Lautner, Department of Regional Planning, Graduate School of Design, Harvard University. Public Administration Service, 1313 E. 60th St., Chicago, Ill. 1941. *xvii* + 346 *pp.* $3.75.

According to Walter H. Blucher, Executive Director of the American Society of Planning Officials, this is the "most complete analysis of past experience with subdivisions ever attempted in this country." It contains a compilation and critical analysis of some 284 subdivision regulations—all available regulations both past and present—and of their various requirements. Chapter headings are as follows: General Considerations; Procedure for Securing Plat Approval; General Subdivision Standards and Design Requirements; Requirements on Plats; Requirements on Grading Plans and Profiles; Improvements Required in the Subdivision. (See also p. 61.)

Airports

Airports, Some Elements of Design and Future Development.—By John Walter Wood, Airport Consultant. Coward-McCann, Inc., New York, 1940. *xv* + 364 *pp.* $12.50 *from* THE AMERICAN CITY.

This 8¾ × 11¾-inch volume contains data from 48 airports in 16 countries, using 64 diagrams and 444 photographs. The first part of the text is devoted to 10 pages on the requirements of an airport, and then short texts on the layout of the airport, runways, aprons, controls, hangars, lighting, radio beam and traffic control, auxiliary revenue and traffic volume, for North and South American airports in Rio de Janeiro, Montreal, Mexico City, Dayton, Boston, Buffalo, Chicago, Cleveland, Columbus, Detroit (2), El Paso, Los Angeles, Miami, Newark, New Orleans, New York (2), Oakland, Pittsburgh, and Washington (2). The European airports covered are those at Antwerp and Brussels, Belgium; Prague, Czechoslovakia; London (2), England; Bordeaux (2), Lyons, Marseilles, and Paris, France; Berlin, Leipzig, Hamburg, Lübeck, Munich, and Stuttgart, Germany; Amsterdam, Holland; Milan, Rome, and Venice, Italy; Madrid, Spain; Malmö and Stockholm, Sweden; Zurich, Switzerland; and Moscow, Russia. The 22 appendices are devoted to aviation statistics and discussions of airport size, runways, airport drainage, airport lighting, airport traffic circulation, airport zoning, seaplane bases, flight strips, lateral plane-conveyors, airport buildings, airports and war, airports and the Civil Aeronautics Board, airport traffic control, airport instrument-landing system, assisted take-off, aviation weather reports, aerial photography, auxiliary revenue, airports and the WPA, airports and the PWA, and the index and captions to aviation drawings. The volume is attractively produced and contains many interesting sketches representing historical aviation events, although we found none commemorating the first aviation meet in the United States, which was sponsored by the student aeronautical society of the author's alma mater in September, 1912, at Squantum, Mass. This was twelve years prior to Mr. Wood's graduation from Harvard in 1922, following which he studied at Oxford, and returned to the Harvard Architectural School for a Master's Degree in 1928.

Public Works

Public Works Engineers' Yearbook 1941. *Including the Proceedings of the* 1940 *Public Works Congress, Detroit, Michigan, and the Western Regional Conference, Los Angeles, California.—American Public Works Association, Chicago.* 1941. *viii* + 424 *pp.*

The current volume of this yearbook is the largest which has been published, and contains material of unusual interest to all public works officials and engineers. The new form of the volume, namely, the grouping of the articles under subjects, automatically brings together material of special interest to a particular official as a unit for ready reference. The major headings include: Administration of Public Works; City and Regional Planning; Streets and Highways; Traffic Control; Sewerage and Sewage Disposal; and Business Proceedings of the Association. This volume, in addition to containing the proceedings of the Congress and the Western Conference, includes papers prepared especially to broaden the scope of the book and make it more valuable to public works officials.

Trailer Safety

Standards for Trailer Coaches and Trailer Coach Camps.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1940. 14 *pp.*

Standards for fire safety are outlined here for trailers, with respect to construction, safety features pertaining to trailers in transit, and their regulation while not in transit.

Educational Buildings and Grounds

The American School and University—A Yearbook Devoted to the Design, Construction, Equipment, Utilization, and Maintenance of Educational Buildings and Grounds.—American School Publishing Corporation, 470 Fourth Ave., New York. Thirteenth Annual Edition, 1941. 627 *pp.* $2.50.

Municipal officials will be particularly interested in chapters of this year's edition of The American School and University emphasizing consideration of the community in planning the school building and its site: The Community School—A Definition; Planning the Secondary School Plant for Community Use; A Community Plans Its School; The School Can be an Esthetic Contribution to the Community; and Needed Variations in Recreational Programs.

Again the volume collects under one cover information which the busy executive could otherwise obtain only from many sources and after much time and effort. Experts present latest trends and developments in the design and construction of school buildings, in their operation and maintenance; and in school site planning and maintenance. Sections are devoted to the special functions and departments of the school plant: physical education and athletics; classroom, library, auditorium; business education, administrative office; cafeteria, home economics, dormitory; laboratory design and equipment; shop planning and equipment; and transportation service. Photographs, detailed plans and diagrams, multiply the practical uses of the book.

Time-saving lists compiled for the yearbook include: architects for educational buildings; landscape architects; college, university and normal-school presidents; presidents of junior colleges; heads of private schools; superintendents of schools in places in 5,000 population and over; superintendents of Catholic parochial schools; aids available to local school boards from state departments, and a classified index to manufacturers' products and services.

Engineering Handbook

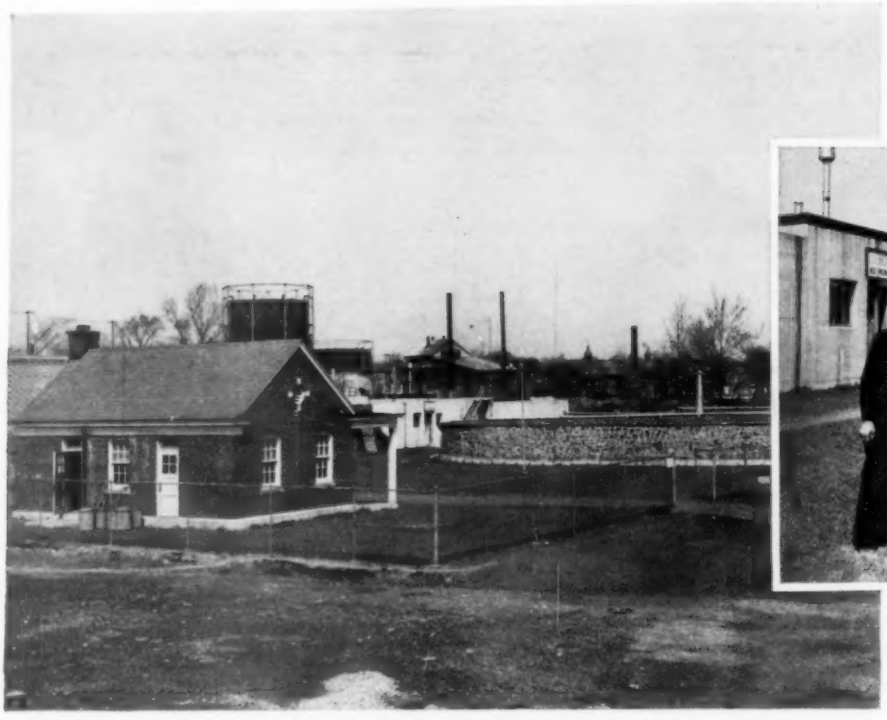
General Engineering Handbook.—Editor-in-Chief, Charles Edward O'Rourke, Professor of Structural Engineering, Cornell University, with 25 Associate Editors. Second Edition. McGraw-Hill Book Company, Inc., New York, 1940. 1,120 *pp.* 800 *illustrations.* 292 *tables.* $4.00 *from* THE AMERICAN CITY.

This engineering library in miniature, in its second edition, is one-fifth larger than the original edition. The book is designed for use particularly by engineers wishing information outside their own specialized field, therefore general descriptive matter, as well as highly specialized material, has been omitted so that the book can be devoted to specific facts and definite methods of the greatest aid. The various editors have brought the book completely up to date through eliminating 11 sections which appeared in the first edition but adding over 200 pages of new data. The book is of especial value to municipal engineers, who must have a wide knowledge of facts in many fields.

Swimming Pool Standards

The Operation of Swimming Pools and Bathing Beaches.—By Edward S. Godfrey, Jr., M.D., Commissioner, New York State Department of Health, Albany N. Y. 1940. 40 *pp.*

Contained in this manual are standards for public bathing places, in terms of Chapter VI of the New York State Sanitary Code, and covering physical inspection and supervision of bathers; bath-houses; prevention of ringworm infection; ventilation and lighting; spectators; operation of, and bacterial quality of water in, artificial and partly artificial pools; disinfection; operation of bathing beaches and small ponds used for bathing purposes; daily records.



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Decentralization Surveys

The Urban Land Institute, 22 W. Monroe St., Chicago, Ill., was formed last year, under the sponsorship of the National Association of Real Estate Boards, to study urban trends and supply advisory service to cities. It is now publishing a series of studies on the problem of decentralization in a number of American cities. The first three are:

Proposals for Downtown Cincinnati—A Digest of the Report Submitted by Walter S. Schmidt to the Urban Land Institute. 1941. 13 *pp.*

Proposals for Downtown Boston—A Survey in Respect to the Decentralization of the Boston Central Business District. 1940. 76 *pp.*

Both of these reports follow the same general outline. They contain three main parts: a summary of factual information on such subjects as population trends, taxes, traffic conditions, business and building conditions, building codes, and the causes of decline in the central business districts; a presentation of opinion on what should be done to better conditions; and final recommendations for action.

Decentralization in New York City.—By Robert H. Armstrong and Homer Hoyt. A Preliminary Report to the Urban Land Institute. 1941. 195 *pp.*

This report presents information on the effect of decentralization on central business areas in New York, and gives the author's recommendations for lessening the decentralizing influences. A survey of informed opinion on possible remedies for the situation will be published later. Discussed in this report are the significance and causes of decentralization, population, economic background, traffic, condition of real estate, and the relation of taxes to rents.

National Public Works Program

Development of Resources and Stabilization of Employment in the United States.—National Resources Planning Board, Washington, D. C. Apply to Supt. of Documents. 1941. *vi* + 101 *pp.* 25*c.*

This far-reaching report has three separately bound parts. The first, The Federal Program for National Development, reviews employment trends; analyzes the possibilities and limitations of the use of public works for employment stabilization and for national development; and presents a recommended six-year program of Federal public works, drawn up by the various Federal construction agencies for their respective fields. Part II, Regional Development Plans, outlines development programs for each of the ten regions served by the field staff of the Board. The third part of the report, Functional Development Policies, suggests alternative lines of policy for land, water, energy and transportation.

City Buildings

Civic Buildings—A Building Types Study.—Reprinted from the March, 1941, issue of the Architectural Record, 115-119 *W. 40th St., New York.* 16 *pp.*

In this attractive and interesting collection of photographs and brief descriptions of exteriors and interiors of civic buildings, it is pointed out that an increasing number of these buildings show a consideration of the citizen and his importance in the city government. Buildings pictured here include a memorial structure in Clinton, Conn., which combines governmental and recreational functions; the city hall at Houston, Texas; the combined civic offices, museum and carillon at St. Charles, Ill.; and the multi-purpose civic building at Newman, Calif.

Rent Control

Emergency Rent Control and the National Defense Program.—National Institute of Municipal Law Officers, 730 Jackson Place, Washington, D. C. 1941. 20 *pp.* $1.00.

Following a brief review of rent control during the first World War, and the court decisions on it, this report presents a model "Emergency Fair Rent Act" providing for rent control under local, as opposed to state, administration.

Highway Design

Report of Committee on Elevated Highways.—Presented at the annual convention of the American Road Builders' Association, New York, Jan. 27-31, 1941. *Apply to the Association, 952 National Press Building, Washington, D. C.* 24 *pp.*

Unlike reports of former years by this committee, which were largely factual descriptions of what had been done in the past, this one presents fundamental design and principles for planning and construction of elevated highways. It takes up the advantages of express roads through built-up city areas and sets forth a pattern for a system of such highways, with accompanying diagrams.

Police Organization

Distribution of Police Patrol Force.—By O. W. Wilson. Public Administration Service, 1313 E. 60th St., Chicago, Ill. 1941. 27 *pp.* $1.00.

Increasing the efficiency of police forces is important because of their limited size, and because of the mounting costs of all city government services. Given in this study are standards for the chronological and geographical distribution of a patrol force of a given size, according to relative need for police service, as they were worked out in Wichita, Kans., and San Antonio, Texas. The methods used are analyzed, and tables are included.

Airport Approach Zoning

Municipalities and Airport Zoning.—American Municipal Association, 1313 E. 60th St., Chicago, Ill. 1941. 15 *pp.* 50*c.*

Here is another publication on the increasingly pressing problem—both legal and administrative—of the control of airport approaches. It discusses the two main methods of regulation, by purchase, and by the exercise of the police power; summarizes the few court decisions that have been made on the subject; and analyzes the authority for control.

Tax Problems

Tax Barriers to Trade—Symposium Conducted by the Tax Institute, Dec. 2-3, 1940, *Chicago, Ill. Tax Institute,* 135 *S. 36th St., Philadelphia, Pa.* 1941. *viii* + 344 *pp.* $2.50.

The Tax Institute (formerly the Tax Policy League) conducts every year a two-day symposium on some tax topic of national and current importance. These are the proceedings of the last such symposium, contributed by 29 experts in the fields of business, law, economics, and agriculture. Its six parts deal with: The Menace of Tax Barriers to Trade; Highway Trade Barriers; Commodity Trade Barriers; Marketing Trade Barriers; Tax Barriers to International Trade; What Can Be Done About Trade Barriers?

New York Planning

Annual Report of the City Planning Commission and the Department of City Planning, The City of New York, 1940.—*The City Planning Commission, Municipal Building, New York.* 86 *pp.* 50*c.*

Besides outlining progress made in carrying out the tasks imposed upon the Commission and Department by the Charter, particularly in the preparation of a Master Plan for New York, this very readable report considers the broad planning problems which the city is facing. Main sections cover some underlying problems, progress on the Master Plan, problems of land use, land use and transportation, departmental progress. (See p. 41.)

Roadside Development

America's Roadsides—A Practical Program for Replacing Confusion and Chaos with Sane and Orderly Development.—American Automobile Association, Pennsylvania Ave. at 17th St., Washington, D. C. 1941. 6 *pp.*

In this folder are condensed the proposals for roadside protection by zoning, endorsed by the American Automobile Association's 1940 annual convention, and published in the Roadside Zoning Legislative Guide.

Trends in City Design

Space, Time and Architecture—the growth of a new tradition.—The Charles Eliot Norton Lectures for 1938-1939, *by Sigfried Giedion. Harvard University Press, Cambridge, Mass.* 1941. *xvi* + 601 *pp.* $5.00 *from* THE AMERICAN CITY.

This is a history of modern architecture and city planning—a brief handling of 15th to 19th century developments, more detailed inquiry into 19th century architecture and construction, and American trends, three chapters on city planning. But it is also much more than a history of development in these fields: it attempts to point out the inner tendencies of our times as they are reflected and indexed by architecture and city planning trends, to search out the basic reasons for the present-day chaos of our culture, and to suggest a way out.

City Government Text

American City Government and Administration.—By Austin F. Macdonald, Ph.D., Professor of Political Science, University of California. Thomas Y. Crowell Co., New York. 1941. *x* + 661 *pp.* $3.75 *from* THE AMERICAN CITY.

The third edition of this outstanding text on city government has many additions and revisions, to take account of the rapid changes that have occurred in the field since the publication of the last edition in 1936. Among these are additions of, or expansions to, sections on tax-exemption policies, state control of local activities, housing, indebtedness and Federal-city relations, public relations, intermunicipal arrangements, and parking meters. As before, the book is divided into two main parts—Government, and Administration.

Planning for Los Angeles

Los Angeles—Preface to a Master Plan.—Edited by George W. Robbins and L. Deming Tilton. Published by the Pacific Southwest Academy, Los Angeles, Calif. The Ward Ritchie Press, Los Angeles. 1941. *xvi* + 304 *pp.* $3.00, *cloth;* $2.00, *paper, from* THE AMERICAN CITY.

Written to stimulate citizen interest in the planning needs of Los Angeles, this attractively presented and illustrated study by 23 experts in their respective fields analyzes the city's physical and related problems, suggesting possible solutions. Chapters discuss the geographic background, population trends and problems, land-use patterns, industrial background, water, streets, transportation and transit, the business district, ports and harbors, land subdivision, zoning, housing, sanitation, recreation, the civic center, the appearance of the city, and the role and significance of planning for the area.

St. Lawrence Waterway Project

The St. Lawrence Seaway Project.—By B. D. Tallamy and T. M. Sedweek. Niagara Frontier Planning Board, Buffalo, N. Y. 1940. 129 *pp.*

This timely report has been prepared by the Executive Staff of the first official regional planning agency to be established in this country, after study of other reports on the subject, and original analyses. It gives a list of major findings; a brief history of the project, including a discussion of the proposed Treaty of 1938; a description of the proposed seaway; an analysis of costs, relative savings and losses, for the navigation part of the project; a description of the power part of the project, its costs and savings; and conclusions on the desirability of the project.

Defense Preparation

Emergency Defense Program—Order of Instruction.—By Charles A. Wheeler, Supt. of Police, Department of Police, Bridgeport, Conn. 1940. 47 *pp.*

These instructions for Bridgeport police personnel in times of emergency include a listing of community facilities, names of key persons in other city departments, and important telephone numbers. Police measures for protecting industrial plants and properties are described, as well as foreign fire-fighting methods.

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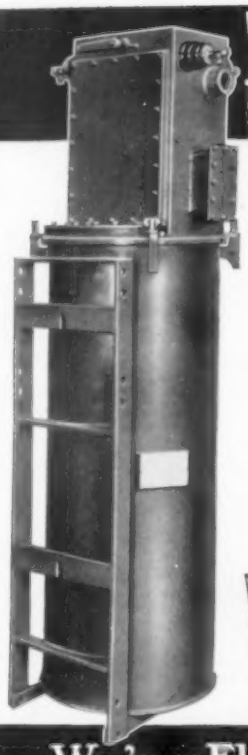

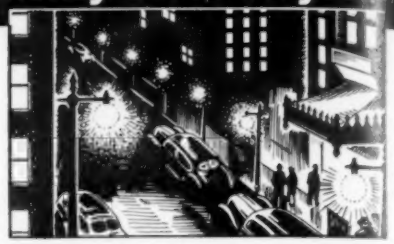

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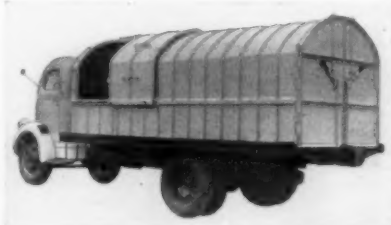

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Community Study Guide

Your Community—Its Provision for Health, Education, Safety, Welfare.—By Joanna C. Colcord, Director, Charity Organization Department, Russell Sage Foundation, New York. 1941. 261 pp. 85c; washable cover.

As recently as March, 1939, THE AMERICAN CITY reviewed the first edition of this book—a revision of a pamphlet that sold 54,000 copies. Since that time it has gone into its fifth printing, and is here revised and expanded again, after consultation by the author with student and citizen groups and civics classes using the book. Composed largely of annotated questions, it covers the public welfare facilities of the community: local government; crime; public safety; workers, wages, conditions of employment; housing, planning, and zoning; health; the handicapped; education; recreation; religious agencies; public assistance; family welfare; child care; foreign-born and racial minorities; clubs and association; agencies for community planning and coordination.

Planning Movie

Planning for Living—A Movie Discussion Guide.—A Defense Digest, published by the American Association for Adult Education, 60 E. 42nd St., New York. 1941. 15 pp. 10c.

This manual is written for groups showing the American Institute of Planners' movie, "The City," which presents the case for city planning and good housing. It gives instructions on where to get the film, how to project it, and how to run the meeting at which the film is shown. The film and its purpose are analyzed, and questions for its discussion are suggested.

Other Reports Received

BOSTON, MASS.—"The Motorists' Case for a Central Traffic Artery." The Mayor's Conference on Traffic. April, 1941. 16 pp.

BUFFALO, N. Y.—Rules and Regulations Governing the Use of Memorial Auditorium, Board of Stadium and Memorial Auditorium. 3 pp.

CHARLEVOIX, MICH.—Annual Report, year ending Feb. 28, 1941. 28 pp.

CHICAGO, ILL.—Annual Report, Board of Supervising Engineers, Chicago Traction, year ending Jan. 31, 1941. x + 132 pp.

CORNING, IOWA.—Annual Report, Corning Municipal Utilities, year ending Mar. 31, 1941. 12 pp.

DETROIT, MICH.—Analysis of Assessed Valuation of Land and Building in Detroit, by Census Tracts for 1927, 1930, 1933, and 1937. Edited by John R. Searles, Detroit Bureau of Governmental Research, with the cooperation of the Work Projects Administration. Feb., 1941. viii + 102 pp. An Outline of the Government of Detroit, Feb., 1941. 15 pp. Both publications are reports of the School of Public Affairs and Social Work of Wayne University, published by the Detroit Bureau of Governmental Research, Inc., 5135 Cass Ave.

—Annual Report, City Plan Commission, 1940. 34 pp.

ERIE, PA.—Budget for 1941. 59 pp.

FORT MORGAN, COLO.—Annual Report, 1940. 33 pp.

HARTFORD, CONN.—Annual Report, Board of Park Commissioners, and Division of Public Cemeteries, year ending Mar. 31, 1940. 64 pp.

—Economic Aspects of Housing in Hartford, Volume II—The Real Property and the Low-Income Housing Area Surveys of the City of Hartford, by the Works Projects Administration, 1938-1940. Housing Authority of the City of Hartford. 40 pp.

HENNEPIN COUNTY, MINN.—Financial Statement, 1940. 52 pp.

HONOLULU, HAWAII.—Report of the Board of Water Supply, biennium ending Dec. 31, 1940. 248 pp.

IDAHO.—"Management of State-Owned Lands in Idaho." Northwest Regional Council, Portland, Ore. 1941. 32 pp.

KANSAS.—"Over-All Tax Limitation." Research Department, Kansas Legislative Council, Topeka. Jan., 1941. 45 pp.

KANSAS CITY, KANS.—Annual Report, Board of Public Utilities, 1940. 36 pp.

KEARNEY, N. J.—"At the Crossroads of World Commerce." Mayor and Council of the Town of Kearny. 1941. 15 pp.

LARCHMONT, N. Y.—Annual Report, 1940. 20 pp.

MASSACHUSETTS.—Local Government in Massachusetts. Papers presented at the Fifth Annual Conference on Current Governmental Problems, Nov. 15 and 16, 1940. Bureau of Public Administration, Massachusetts State College, Amherst, Mass. 1941. 67 pp. 50c.

MICHIGAN.—Biennial Report, Stream Control Commission, 1939-1940. 72 pp.

MILWAUKEE, WIS.—Tax Dollar, Year 1941. Prepared by City Comptroller. 4 pp.

MOORHEAD, MINN.—Annual Report, City Clerk, 1940. 10 pp.

NANTUCKET, MASS.—Annual Town Meeting, 1941. 36 pp.

NEW YORK CITY.—Centralized Purchasing in New York City.—Studies in Municipal Problems, Number Five. By Stanley W. Zeitlin, A.B., College of the City of New York. Department of Investigation. iii + 35 pp.

NEW YORK STATE.—Annual Report, State Planning Council, Division of State Planning, Albany. 1940. 16 pp.

—Report of the State Commissioner of Housing to the Governor and the Legislature of the State of New York. Apply to the Commissioner, New York City. 42 pp.

READING, MASS.—Annual Report, Board of Public Works, 1940.

SACRAMENTO, CALIF.—Report Relating to Location of Public Buildings. City Planning Commission. Feb., 1941. 13 pp.

ST. LOUIS, MO.—Annual Report, City Plan Commission, 1939-1940. 63 pp.

—Report of Traffic Accidents, during 1940, by Department of Streets and Sewers. 130 pp.

SALEM, MASS.—Annual Report, Park Department, 1940. 25 pp.

SAN DIEGO, CALIF.—Yearbook, 1939-1940. 48 pp.

SANTA CLARA COUNTY, CALIF.—Planning, 1940. 18 pp.

TENNESSEE.—"Local-Government Accounting—The Secret to Better City and County Management." 1940. 29 pp. Minimum Accounting Standards for Tennessee Counties and Small Municipalities. 1940. 60 pp. The University of Tennessee Record—Extension Series. Published by the University of Tennessee Press, Knoxville, Tenn.

WALPOLE, MASS.—Annual Report, 1940. 257 pp.

WEST READING, PA.—Annual Report, 1941. 29 pp.

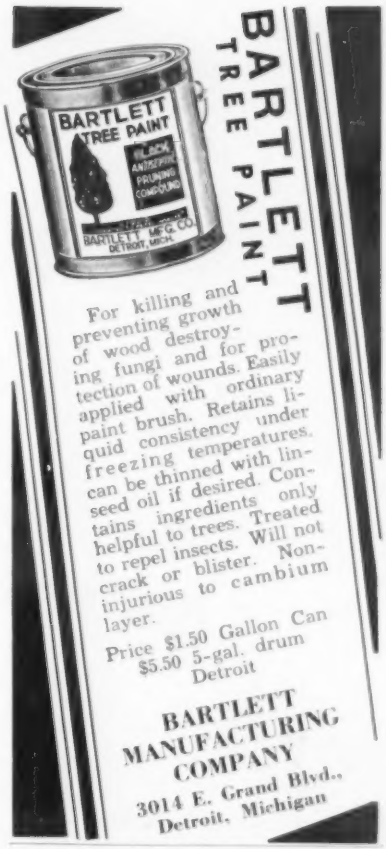
YAPHANK, LONG ISLAND, N. Y.—Report of the Suffolk County Mosquito Extermination Commission, 1940. 32 pp.

"The Case Against Taxation of Governmental Securities."—By Carl H. Chatters. A Reprint from *The Annals* of the American Academy of Political and Social Science, March, 1941. Issued by the Conference on State Defense, 111 Eighth Ave., New York. 6 pp.

"County Government in the United States."—A list of recent references.—Compiled by Florence S. Heliman, Chief Bibliographer, Division of Bibliography, Library of Congress, Washington, D. C. 1940. 13 pp.

Federal Works Agency, First Annual Report, year ended June 30, 1940. Apply to Supt. of Documents, Washington, D. C. 451 pp. 55c.

April, 1941, *Quarterly* of the National Fire Protection Association: Part 1; and Part 2, Advance Reports to the Forty-Fifth Annual Meeting, Toronto, May 12-16, 1941.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 102 pp., 216 pp., respectively.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Conventions - - When and Where

Meeting is annual convention unless otherwise designated

May 8-10.—Seattle, Wash.
AMERICAN WATER WORKS ASSOCIATION—PACIFIC NORTHWEST SECTION. (Olympic Hotel.) Sec., Fred Merryfield, Oregon State College, Corvallis, Ore.

May 8-9.—Washington, D. C.
MARYLAND-DELAWARE WATER AND SEWERAGE ASSOCIATION. (Hotel Raleigh.) Sec.-Treas., Chesley F. Garland, 2411 N. Charles St., Baltimore, Md.

May 11-14.—Philadelphia, Pa.
NATIONAL CONFERENCE ON PLANNING. Joint annual conference of American Society of Planning Officials, American Institute of Planners, the American Planning and Civic Association, and the National Economic and Social Planning Association. Conference Dir., Miss Harlean James, 901 Union Trust Bldg., Washington, D. C.

May 12-14.—Charleston, S. C.
AMERICAN WATER WORKS ASSOCIATION—SOUTHEASTERN SECTION. (Ft. Sumter Hotel.) Address: Sec., B. P. Rice, Reconstruction Finance Corporation, Healey Building, Atlanta, Georgia.

May 12-13.—Carthage, Mo.
MISSOURI ASSOCIATION OF MUNICIPAL UTILITIES. (Drake Hotel.) Sec.-Treas., W. J. McCarroll, Fulton, Mo.

May 12, Week of.—Toronto, Ont.
NATIONAL FIRE PROTECTION ASSOCIATION. (Royal York Hotel.) M'ng Dir., Percy Bugbee, 60 Batterymarch St., Boston, Mass.

May 14-15.—Escanaba, Mich.
UPPER PENINSULAR WATER WORKS ASSOCIATION. (Sherman Hotel.) Address: Chairman: S. J. Shank, Supt. of Water Works, Escanaba, Michigan.

May 15-16.—Cincinnati, Ohio.
AMERICAN WATER WORKS ASSOCIATION—OHIO SECTION. (Gibson Hotel.) Sec., T. R. Lathrop, State Dept. of Health, Columbus, Ohio.

May 17-19.—Yosemite Valley, Calif.
AMERICAN INSTITUTE OF ARCHITECTS. Exec. Sec., E. C. Kemper, 1741 New York Ave., Washington, D. C.

May 19-22.—Kalamazoo, Mich.
BUILDING OFFICIALS' CONFERENCE OF AMERICA. Address: Sec.-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

May 19-22.—Louisville, Ky.
MUNICIPAL FINANCE OFFICERS ASSOCIATION OF THE UNITED STATES AND CANADA. (Brown Hotel.) Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

May 22-25.—Walla Walla, Wash.
ASSOCIATION OF WASHINGTON CITIES (Marcus Whitman Hotel.) Exec. Sec., Chester Biesen, Univ. of Washington, Seattle, Wash.

May 23-24.—Missoula, Mont.
AMERICAN WATER WORKS ASSOCIATION—MONTANA SECTION. (Hotel Florence.) Sec., Herbert B. Foote, State Board of Health, Helena, Montana.

May 30-June 1.—Atlantic City, N. J.
COMMUNITY CHESTS AND COUNCILS, INC. Exec. Vice-Pres., Allen T. Burns, 155 E. 44th St., New York.

June 5-6.—Atlanta, Ga.
SMOKE PREVENTION ASSOCIATION. (Ansley Hotel.) Sec., Frank A. Chambers, City Hall Square Bldg., Chicago, Ill.

June 9-11.—Albany, N. Y.
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Exec. Sec., William P. Capes, City Hall, Albany, N. Y.

***June 9-10.—Albany, N. Y.**
NEW YORK STATE FEDERATION OF OFFICIAL PLANNING BOARDS. (Hotel Ten Eyck.) Sec.-Treas., Thomas W. Mackesey, White Hall, Ithaca, N. Y.

June 12-14.—Lancaster, Pa.
EASTERN ASSOCIATION OF FIRE CHIEFS. (Hotel Brunswick.) Sec., Charles E. Clark, Box 217, Wayne, Pa.

***June 16-20.—Kansas City, Mo.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Semi-annual meeting. Nat'l Sec., C. E. Davies, 29 W. 39th St., New York.

June 19-21.—Niagara Falls, N. Y.
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Spring meeting. Sec.-Treas., A. S. Bedell, State Dept. of Health, Albany, N. Y.

June 22-26.—Toronto, Ont.
AMERICAN WATER WORKS ASSOCIATION. (Royal York Hotel.) Sec., Harry E. Jordan, 22 E. 40th St., New York.

June 29-July 5.—Boston, Mass.
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. Exec. Sec., Willard E. Givens, 1201 16th St., N. W., Washington, D. C.

July 22-25.—Philadelphia, Pa.
PENNSYLVANIA CHIEFS OF POLICE ASSOCIATION. Sec., F. B. Titus, Lansdowne, Pa.

***August 7-9.—Erie, Pa.**
AMERICAN WATER WORKS ASSOCIATION—WESTERN PENNSYLVANIA SECTION. Sec., E. P. Johnson, 418 Flannery Bldg., Pittsburgh, Pa.

August 17-25.—Evanston, Ill.
NATIONAL INSTITUTE FOR COMMERCIAL AND TRADE ORGANIZATION EXECUTIVES. (Northwestern Univ.) Sec.-Treas., Clarence R. Miles, 832 First Nat'l Bank Bldg., Chicago, Ill.

August 18-21.—Buffalo, N. Y.
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE. Exec. Sec., Edward J. Kelly, 918 F St., N. W., Washington, D. C.

***August 18-22.—Boston, Mass.**
Joint meeting. (Mechanics Bldg.) NEW ENGLAND ASSOCIATION OF FIRE CHIEFS AND THE INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Address: Daniel B. Tierney, Chairman Exhibit Committee, Fire Dept. Headquarters, Arlington, Mass.

August 26-29.—Washington, D. C.
NATIONAL SHADE TREE CONFERENCE. (Mayflower Hotel.) Sec.-Treas., L. C. Chadwick Ohio State Univ., Columbus, Ohio.

September 1-3.—State College, Pa
PENNSYLVANIA WATER WORKS OPERATORS' ASSOCIATION. Sec.-Treas., I. M. Glace, 22 S. 22d St. Harrisburg, Pa.

September 3-5.—State College, Pa.
PENNSYLVANIA SEWAGE WORKS ASSOCIATION. (Pennsylvania State College.) Sec.-Treas., Bernard S. Bush, Kirby Health Center, Wilkes-Barre, Pa.

***September 11-12.—Glens Falls, N. Y.**
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Fall meeting. (Hotel Queensbury.) Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York.

September 15-21—Santiago de Chile, S. A.
PAN AMERICAN CONGRESS OF MUNICIPALITIES. Address: Exec. Dir., Earl D. Mallery, American Municipal Association, 1313 E. 60th St., Chicago, Ill.

September 18-19.—Santa Fe, N. Mex.
AMERICAN WATER WORKS ASSOCIATION—ROCKY MOUNTAIN SECTION. (La Fonda Hotel.) Sec., B. V. Howe, State Office Bldg., Denver, Colorado.

September 25-26.—Boston, Mass.
NEW ENGLAND WATER WORKS ASSOCIATION. (Hotel Statler.) Sec., Frank J. Gifford, 615 Statler Bldg., Boston, Mass.

September 24-26.—Grand Rapids, Mich.
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. (Hotel Pantlind.) Sec., M. N. Gerardy, Water Board Bldg., Detroit, Mich.

***September 29-October 2.—St. Louis, Mo.**
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION, INC. (Hotel Jefferson.) Sec.-Treas., Irvin Shulsinger, 8 East 41st Street, New York.

October 6-9.—New Orleans, La.
AMERICAN INSTITUTE OF PARK EXECUTIVES AND AFFILIATED ORGANIZATIONS. (Roosevelt Hotel.) Exec. Sec., Will O. Doolittle, Box 422, Tulsa, Okla.

October 6-10.—Chicago, Ill.
NATIONAL SAFETY COUNCIL. M'ng Dir., W. H. Cameron, 20 N. Wacker Drive, Chicago, Ill.

***October 9-11—Minneapolis, Minn.**
AMERICAN WATER WORKS ASSOCIATION—MINNESOTA SECTION. (Nicollet Hotel.) Address: Sec.-Treas., Ronald M. Finch, Wallace & Tiernan Co., Inc., 414 Flour Exchange, Minneapolis, Minn.

***October 9-11.—New York City.**
FEDERATION OF SEWAGE WORKS ASSOCIATIONS. Exec. Sec., W. H. Wisely, Box 18, Urbana, Ill.

October 12-14.—Virginia Beach, Va.
LEAGUE OF VIRGINIA MUNICIPALITIES. (Cavalier Hotel.) Exec. Sec., Morton L. Wallerstein, 902 Travelers Bldg., Richmond, Va.

October 12-16—St. Paul, Minn.
NATIONAL TAX ASSOCIATION. (Lowry Hotel.) Address: Sec., Raymond E. Manning, Library of Congress, Washington, D. C.

October 13-16.—Fort Worth Texas.
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Sec., Lewis A. Quigley, 3320 W. Berry St., Fort Worth, Texas.

October 14-17.—Atlantic City, N. J.
AMERICAN PUBLIC HEALTH ASSOCIATION—(Convention Hall and Auditorium.) Exec. Sec., Dr. Reginald M. Atwater, 50 W. 50th St., New York.

***October 15-17.—Atlantic City, N. J.**
PENNSYLVANIA WATER WORKS ASSOCIATION. (Haddon Hall.) Sec., Dr. F. Herbert Snow, 507 Telegraph Bldg., Harrisburg, Pa.

October 19-22.—New Orleans, La.
AMERICAN PUBLIC WORKS ASSOCIATION. Acting Exec. Dir., Norman Hebden, 1313 E. 60th St., Chicago, Ill.

October 20-22.—Cedar Rapids, Iowa.
AMERICAN WATER WORKS ASSOCIATION—MISSOURI VALLEY SECTION. Sec., Earle L. Waterman, Univ. of Iowa, Iowa City, Iowa.

October 22-25.—Fresno, Calif.
AMERICAN WATER WORKS ASSOCIATION—California Section. (Fresno Hotel.) Sec., Gerald E. Arnold, San Francisco Water Dept., Millbrae, Calif.

October 26-29.—Jacksonville, Fla.
NATIONAL ASSOCIATION OF ASSESSING OFFICERS Act'g Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago, Ill.

October 27-29.—Nashville, Tenn.
AMERICAN WATER WORKS ASSOCIATION—KENTUCKY - TENNESSEE SECTION. Sec.-Treas., Howard D. Schmidt, 420 6th Ave., N. Nashville, Tennessee.

October 27-28.—Pittsburgh, Pa.
ENGINEERING SOCIETY OF WESTERN PENNSYLVANIA. (William Penn Hotel.) Gen. Chairman, H. M. Olson, 171 Longue Vue Drive, Mt Lebanon, Pittsburgh, Pa.

November 3-5.—High Point, N. C.
Joint meeting. (Sheraton Hotel.) AMERICAN WATER WORKS ASSOCIATION—NORTH CAROLINA SECTION AND NORTH CAROLINA SEWAGE WORKS ASSOCIATION. Sec., R. S. Phillips, Box 1170, Durham, N. C.

November 6-7.—Baltimore, Md.
AMERICAN WATER WORKS ASSOCIATION—FOUR STATES SECTION. Address: Sec., Lloyd Nelson, U. S. Pipe & Foundry Co., Broad and Chestnut Sts., Philadelphia, Pa.

November 25-27.—Hollywood, Fla.
INTERNATIONAL CITY MANAGERS' ASSOCIATION. (Hollywood Beach Hotel.) Exec. Dir., Clarence E. Ridley, 1313 E. 6th St., Chicago, Ill.

* First appearance of notice on this page.

3 REASONS WHY
HAZASHEATH UNDERGROUND CABLES
Deliver Economical Service

1 LOW FIRST COST — Simple construction — just conductor, rubber insulation, rubber-filled tape and rubber sheath—reduces cable costs.

2 INEXPENSIVE INSTALLATION — The all rubber construction makes it easy to install, connect and splice Hazasheath cables, single or multiple conductor.

3 DURABILITY — Submarine rubber insulation is covered with a tough, mold-cured, long-aging 60% rubber jacket with a tensile strength greater than 3500 lbs. per square inch, resistant to moisture, soil acids and alkalis.

For perfect splices and joints use Okonite Rubber and Manson Friction Tapes . . . unequalled for aging qualities.

HAZARD INSULATED WIRE WORKS
Division of the Okonite Company
Wilkes-Barre, Pa.
Offices in Principal Cities

HAZASHEATH CABLES FOR DIRECT BURIAL

News and Illustrations

Items of Interest to City, Town and County Officials, and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

Arthur T. Clark

WSWMA Appoints Secretary-Manager

Announcement was made recently of the appointment of Arthur T. Clark, Morristown, N. J., as Secretary-Manager of the Water and Sewage Works Manufacturers Association, national organization comprising 150 leading manufacturers supplying equipment and materials in the fields of water supply and sewage treatment. Headquarters offices for the Association are being established in New York, and Mr. Clark will assume his new duties early in May.

Mr. Clark is a widely known civil engineer of broad experience in operation, construction and design of plants, as well as in the manufacturing and sales end of the field. Following a number of years spent in both consulting and municipal engineering work, he has more recently been associated with the sales engineering staffs of several manufacturers, including The Barrett Co., Joseph G. Pollard Co., and Pomona Pump Co., and is a member of many professional organizations. He will be the first to fill the office of Secretary-Manager in the Manufacturers Association, provided for in the new constitution and by-laws adopted last July.

Asphalt Institute News, Election and Bulletins

At the Annual Meeting of the Board of Directors of The Asphalt Institute, 801 Second Avenue, New York, Herbert Spencer, of the Standard Oil Co. of New Jersey, was elected the first full-time President of the Institute for the fiscal year beginning April 1, 1941. Vice-Presidents elected include: J. A. Blood, Standard Oil Co. of California; J. F. Lucey, Talco Asphalt & Refining Co.; and H. B. Pullar, Berry Asphalt Co. A. M. Maxwell, Standard Oil Co. of Ohio, was elected Chairman of the Executive Committee, with Messrs. Blood, Lucey, Spencer and Waxman as members; David Waxman of Shell Oil Co., Inc., was elected Treasurer, and George R. Christie, Socony-Vacuum Oil Co., Inc., Secretary.

W. R. Macatee, who had been serving as Assistant, and also Acting Managing Director, was elected Managing Director and will be located at the New York office although he will continue in direct charge of the Washington, D. C., office of the Institute.

The Asphalt Institute has also announced the publication of the following bulletins in its Research and Construction Series: Research Series No. 6, "The Significance of Various Methods of Test Used on Asphaltic Paving Materials"; Research Series No. 7, "A Direct Method of Determining Thickness of Asphalt Pavement with Reference to Subgrade Support"; Construction Series No. 54, "The Washington National Airport and Choice of Surfacing Types for Airports"; Construction Series No. 55, "Specification for Asphalt Enamel Protective Coatings for Steel Water Pipe"; Construction Series No. 56, "Asphalt for Heavy-Duty Highways"; and "Pocket Reference Manual for Highway

W. M. Macatee,
Managing Director,
The Asphalt Institute

Engineers," in a new edition, enlarged to 256 pages, to include the most recently developed data on asphalt uses.

Single copies of these publications are available to officials, engineers, and technologists without charge, upon request directed to THE AMERICAN CITY or to The Asphalt Institute, 801 Second Avenue, New York, by mentioning this item.

Simplex Representative at Baltimore, Md.

Announcement has been received of the appointment of George Goodman, 3903 Park Heights Ave., Baltimore, Md., as exclusive representative of Simplex Valve & Meter Co. of Philadelphia, Pa., in Maryland, District of Columbia and northern Virginia.

Mr. Goodman for a number of years was associated with the office of the Brown Instrument Co.

Irving H. Taylor

Michigan Alkali Elects New Vice-President

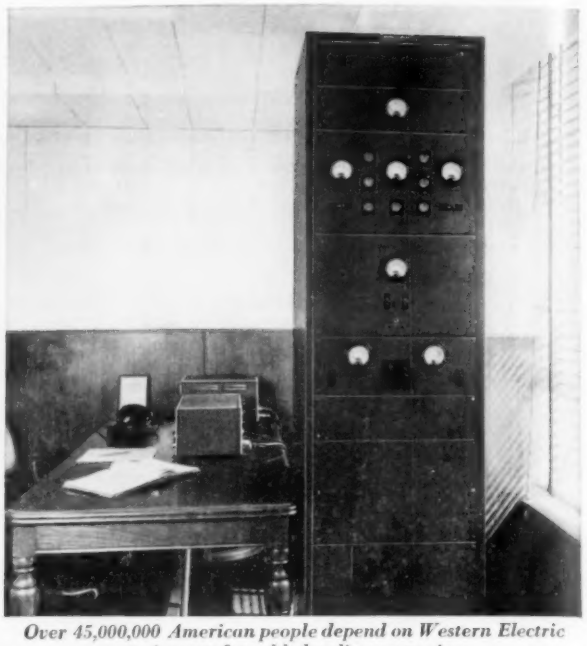
Irving H. Taylor has been elected Vice-President in charge of sales of the Michigan Alkali Co., Wyandotte, Mich., manufacturers of heavy chemicals. His headquarters will be in New York. Mr. Taylor is President of the Merchants Chemical Co., of New York, a former Chairman of the Board of the United States Alkali Export Association, Inc., and has been prominently identified with the alkali industry for 27 years.

New Concrete Paint Has Porcelain Finish

A white waterproof and fireproof paint, which is recommended by its manufacturer for exterior and interior surfaces such as cement, concrete, face brick, common brick, cement and cinder blocks, stucco, clay tile, cast of natural stone, has been developed by Bedard & Morency Mill Co., 101 North Lombard Avenue, Oak Park, Ill. This new product, known as Porce-Tite, is also used, when mixed to a mortar consistency, for filling cracks and holes in all types of masonry.

This new material is a chemical ceramic, which the manufacturer states "bakes itself to the surface and is unaffected by most industrial acids or fumes." It is composed of inorganic materials, so that no vermin is attracted by it; and it expands in setting, thus insuring a strong bond to the surface. Porce-Tite contains no oil, casein or cement, but is a compound of several inorganic materials, chemically treated to produce high waterproofing qualities. As a paint, it is applied with a brush or spray, sets in three hours and dries in twelve hours, producing a smooth, hard surface which repels grease and dirt. This surface can be washed with paint cleaners and washing compounds without marring or destroying the finish. Complete information on this product may be secured from Bedard & Morency Mill Co. direct.

Sergeant Pickel at the dispatcher's desk. He receives complete information... commands eight radio cars — instantly.



Over 45,000,000 American people depend on Western Electric equipment for added police protection.

2-way police radio takes over tough job in Linden!

Western Electric 228A equipment helps in adequate protection of New Jersey industrial community!

Linden has a population of only 25,000, but until a few months ago it presented as difficult a problem for its police force as cities several times its size. Besides its attractive residential sections, Linden is the home of several oil refineries and numerous manufacturing plants, busy on defense orders. Effective patrol of these widespread industrial areas was one problem. Traffic control on one of the nation's busiest highways, which cuts through the city, was another. Both were greatly simplified when Linden installed Western Electric 2-way radio.

All eight radio cars are equipped with 228A 2-way units, operating with the 214A 50-watt transmitter and 28B receiver in the City Hall. "The operation of our radio system has been very satisfactory", says Frank J. Hickey, Linden's Chief of Police. "We investigated several types of equipment, but we are glad we chose Western Electric."

Police Headquarters in City Hall is now in instant 2-way communication with all eight radio cars shown below.

Police Chief Frank J. Hickey is enthusiastic over the performance of the new 2-way police radio.

Western Electric

Distributed by Graybar Electric Co. *In Canada: Northern Electric Co., Ltd.*

POLICE RADIO TELEPHONE EQUIPMENT

The New International Model I-4 Wheel Tractor

New Wheel Tractors by International

Five new wheel tractors, adapted for a variety of construction, maintenance, material-handling, and transportation work for county, municipal and other government departments, as well as for airports and public utilities, have been announced by International Harvester Co., 180 North Michigan Avenue, Chicago, Ill. These new "I" models include three with carburetor-type engines and two with International easy-starting full-diesel engines. They are all equipped with Tocco-hardened crankshafts, pressure lubrication, replaceable cylinders, five forward speeds up to 15 mph, gear drive, countershaft brakes that can be individually controlled or interlocked, provision for mounting a variety of allied equipment, and various other features.

The equipment which may be operated readily by these new wheel tractors includes maintainers and graders; front-end shovels and loaders; crosswalk, sidewalk, and other types of snow-plows; road rollers, cranes and hoists; winches; brushes and sweepers; disk harrows and mixers for mixed-in-place roads; scrapers; dump-wagons; trailers; tampers; and mowers.

New Patching Roller on Which Man Rides

When it comes to patching a roadway surface today, no matter whether it is in a city street, a county road, or state highway, you must have fast-moving equipment. There are various types of power rollers on the market that trail behind a truck, or are easily placed on equipment trailers, making it possible to move the roller speedily from one patching job to another. Littleford Bros., 500 East Pearl Street, Cincinnati, Ohio, has just brought out an entirely new Model No. 155 Trail-O-Roller.

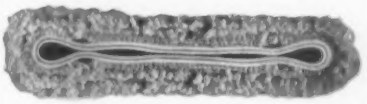
To raise and to lower the wheels a unique hydraulic arrangement lifts the pneumatic-tired trailing wheels off the ground. When the situation is reversed, the trailing wheels are on the ground, and the roller drum is raised 8 inches off the ground. There are no rubber tires in contact with the finished surface, and with the detachable trailing tongue it is possible to use any kind of a truck to haul this roller. The roller width is 24 inches, designed to be narrow enough to roll service cuts. The front roller is 18 inches in diameter.

Some of the interesting facts about this No. 155 are that the operator rides on the roller; it is driven by a 7.75-hp standard automotive type engine with two speeds forward and one reverse; the actual weight is 4,300 pounds; the rear roller gives 145 to 150 pounds per square inch compaction, while the front roller gives 41 pounds. The rolling speed is 2 mph, while for moving short distances in high gear it moves at 5 mph, and it may easily be moved at 35 to 40 mph when trailing. It has a standard automobile truck-type steering gear.

Complete information may be secured direct from Littleford Bros. by mentioning this item.

The New Littleford Trail-O-Roller

WHY—



The above illustration shows the position of the rubber lining in

Bi-Lateral Fire Hose

when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

— Also —

we can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction, cheaper than one priced at $7,000 when loaded with other construction.

BI-LATERAL FIRE HOSE CO.

20 N. Wacker Drive, Chicago, Illinois

MB

Handles ALL Striping Jobs!

Here's a simple, compact machine marker that's capable of handling all types of striping jobs:

Street Centerlines	Playgrounds
Parking Lines	Airports
Cross Walks	Football Fields
Safety Zones	Tennis Courts, Etc.

In addition, this versatile machine comes in handy as an all-purpose paint sprayer for painting curbs, traffic signs, park benches, poles, guard rails, bridge abutments, fences, etc. Used by cities all over the country.

WRITE FOR LITERATURE.

MEILI-BLUMBERG CORP.
Box A-5
NEW HOLSTEIN, WISCONSIN

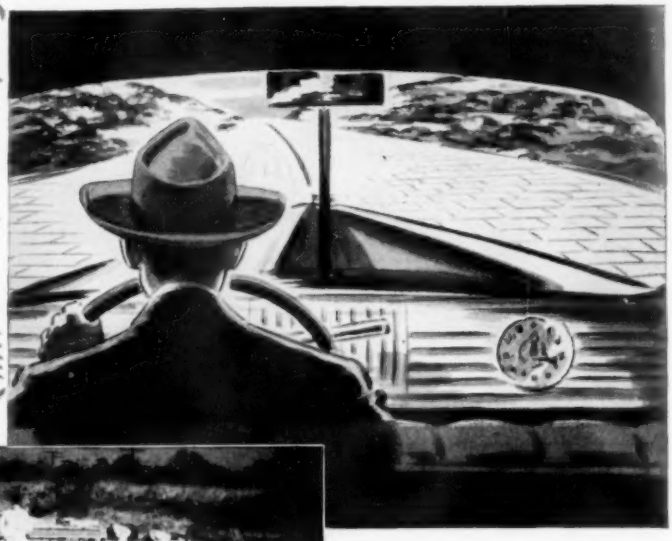
TWO TYPES
Hand propelled model (shown here) and self propelled type that lays down traffic lines up to 15,000 feet per hour. Easy, one-man control. Practically no upkeep.

STREET MARKER

A3294-1/3R

For Smooth rides . . .

BUILD A MODERN BRICK PAVEMENT



Not to be confused with standard two-course construction is this new and approved method for highway surfaces. You can now build brick roads with a perfect traffic surface at substantially lower cost! It is called vibrated monolithic brick. . . Vibrating machinery, recently developed, makes this possible.

In this method of construction (cut shows job under way in Jefferson County, Ohio) the brick are vibrated into the freshly placed concrete. Expansion and control joints are used. Grout filler completes the job.

FOR truck or car, modern brick pavements are popular with the traffic. They give comfort to the highest degree — a superlatively smooth, even traffic surface — an ease of driving that makes them favorite routes.

Unless you've followed brick construction very closely, you may have overlooked important new developments. For example, Vibrated Monolithic brick construction which is illustrated above.

And then there are many new advances in the traditional two-course brick pavement such as wire-cut, non-skid surface, rolling on boards; surface filler removal; mastic bedding courses. All these are potent factors in ever-smooth modern brick pavement surfaces.

Hundreds of modern brick pavements have been built in the past few years. They are headed towards 50 years of trouble-free service. Like their predecessors, many of them will reach that anniversary — perhaps pass it! For of all commonly used paving materials, Vitrified Brick has by far the greatest resistance to weather damage — the starting point of most pavement failures.

Your community can use modern brick pavements to advantage. Put them wherever you want a road or street pavement to have the lowest cost per year of service. National Paving Brick Association, National Press Building, Washington, D. C.

VITRIFIED **BRICK**

THE MOST SATISFACTORY PAVEMENT

Beyond the water main, a Homelite portable pump supplies water to the booster tank of the fire department pumper

Portable Pump Feeds Pumper's Booster Tank

The accompanying illustration shows the use of a Homelite portable pump, made by Homelite Corporation, 71 Riverdale Avenue, Port Chester, N. Y., as an aid in rural fire-fighting. The Homelite pump can be connected directly into the suction intake of the fire department pumper if the pumping engine does not carry a booster tank. Or, if the engine is equipped with a booster tank, the Homelite unit can be hooked up to supply the tank.

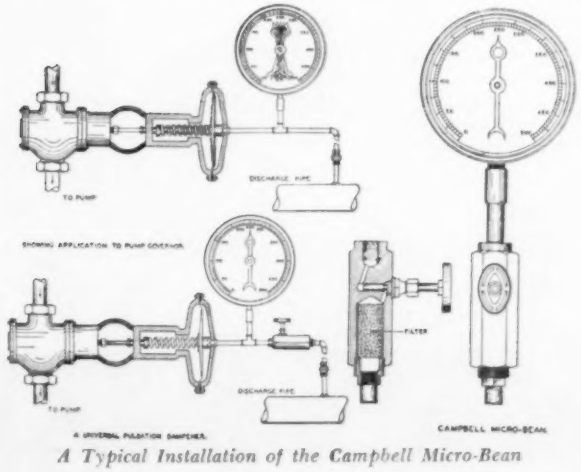
With this method water can be drawn from wells, ponds, rivers, or any other natural water supply. If the fire department pumper cannot be driven or parked near the water supply, the Homelite pump, being easily portable, can be carried quickly by one man to the water supply and connected to the truck by means of hose extensions.

Damping Pulsations of Indicating Gages

A novel device for damping pulsations of boiler-plant pump governors and eliminating the "jitters" of gage hands, has been announced by J. A. Campbell Co., 645 East Wardlow Road, Long Beach, Calif. The Campbell Micro-Bean is installed on the pressure line to the diaphragm of a pump governor for the protection of the pressure gage mechanism and tube, as well as the spring, diaphragm, and stem packing. It is also effective as protection to any control valve, such as a back pressure or reducing regulator, and for use with sensitive control instruments subjected to pulsating flow.

The valve will handle steam, fuel oil, gas, water, or other liquids, with a simple adjustment for each viscosity. The Micro-Bean consists of a solid brass body in which a filter is inserted for protection from foreign matter. The valve has an extremely slight taper, so that very sensitive control of the shut-off is effected. This taper minimizes the tendency to pinch off, under changing pressure conditions, to approximately 2 per cent of what is usual in an ordinary valve, according to the inventor.

The micrometric control of the opening enables the operator to obtain the closest approach to full shut-off down to the last .0003-inch, regardless of the line content. The device is said to be universal in application for various purposes up to 3,000 pounds pressure. Literature on this device may be secured direct from the manufacturer by mentioning this item.



A Typical Installation of the Campbell Micro-Bean

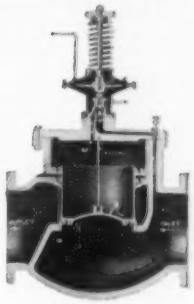
Water Works Men Attention!

•

American Water Works Association Toronto June 22-26

See page 40 of our new 96-page catalog for information on this

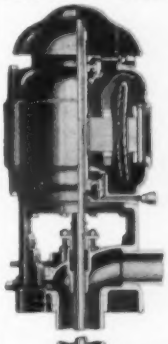
SINGLE ACTING STANDARD ALTITUDE VALVE



Where a separate discharge line or bypass arrangement is used for removing storage water, this valve, placed in the upstream pressure line, will maintain a uniform water level in tank, standpipe or reservoir within a range of 3" to 12" variation.

GOLDEN-ANDERSON VALVE SPECIALTY CO.
Fulton Building Pittsburgh, Pa.

America's Most Amazing Pump



Peerless Hi-Lift

R. Moineau U. S. Pat. Nos. 1892217 and 2028407

For Deep Wells
Different Principle
Helical Chrome Rotor
Resilient Helical Stator
Water Lubricated
500 to 3,500 Gals. Per Hour

Utilizes single water-lifting member consisting of hard-chrome helical rotor revolving at half usual shaft speed within resilient, Cutless stator bearing. Simplest design. Hypocycloidal action literally squeezes water upward. No priming. Very economical. 4" wells or larger. Ideal for all services.

PEERLESS TURBINE AND HYDRO-FOIL PUMPS
Capacities up to 100,000 g.p.m.

MAIL COUPON FOR LITERATURE

PEERLESS PUMP DIVISION—Food Machy. Corp., 335 West Avenue 26, Los Angeles, Calif.
Without obligation, mail Bulletin re: Hi-Lift Pump.
NAME .....
ADDRESS .....
CITY ..... STATE .....

BETTER SERVICE WITH ECONOMY

1

Low cost roads can be good roads when consolidated with calcium chloride

2

Let calcium chloride save your present roads so that supplies of aggregates can be used to improve and widen other roads and thus make your budget go farther.

3

1. Loose, unconsolidated surface materials are highway extravagance, requiring excessive blading and frequent, costly resurfacing. Such roads are always dusty and dangerous to drive on.
2. By mixing in a small amount of bindersoil, shaping to proper cross section and applying calcium chloride, a firm, dustless, easy-to-maintain surface is obtained.
3. Savings made by reduction of blading and conservation of surface materials usually pays for the calcium chloride treatment. So it costs no more to have a GOOD road.

It's a fact that calcium chloride pays its own way in savings on maintenance and resurfacing expense. And, in addition, greatly improved traffic service is provided.

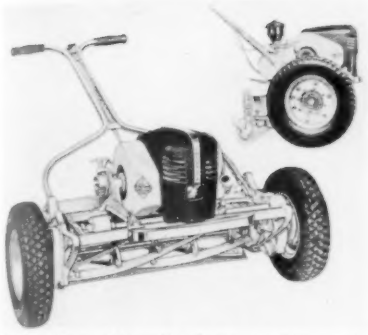
Proof of this is found in the experience of State and Federal officials on public highways, forest roads and military projects.

The economy factor is even more important on county, township, or village roads where improvement funds are small.

Methods of surface consolidation are simple and easily carried out with simple equipment. Write for Surface Consolidation Booklet explaining methods and materials used, together with accepted national specifications.

CALCIUM CHLORIDE ASSOCIATION
4145 PENOBSCOT BUILDING • DETROIT, MICH.

When you write for that catalog, kindly mention THE AMERICAN CITY.



The New Streamlined Power Mower by Jacobsen

A New Streamlined Power Lawn Mower

A new streamlined power-driven lawn mower representing two decades of engineering experience has recently been announced by the Jacobsen Manufacturing Co., of Racine, Wis. The mower is streamlined and equipped with case-hardened, steel-cut gears, an autotype clutch and transmission, and a powerful two-cycle motor. Borrowing ideas from the airplane industry, these mowers are built light with strong alloy castings. Complete information may be secured from the manufacturer by mentioning this item.

Toronto Meeting of Water-Works Men

With the 61st annual meeting of the American Water Works Association coming next month, plans are rapidly being completed for all the details. Joseph M. Wafer, Chairman, Transportation Committee, has already released complete information on the special train service available from New York, the Pacific Coast, San Antonio, St. Louis, New Orleans and the southern states, Florida, Chicago, and other points where there is a considerable concentration of water-works men.

If you have not already received a copy of the schedule of special cars and the trains, together with round-trip railroad fares and Pullman rates, write at once to the Chairman of the Transportation Committee, care Industrial Chemical Sales Division, West Virginia Pulp and Paper Co., 230 Park Avenue, New York.

N. J. Water Works Men to Inspect Plants

When the New Jersey Section of the American Water Works Association holds its spring meeting on Thursday, May 22, those attending will have an opportunity to inspect the foundries of the U. S. Pipe & Foundry Co. at Burlington, N. J., and of the R. D. Wood Co. at Florence, N. J.

Arrangements have been made for bus transportation from several central points throughout the state of New Jersey. The local arrangement committee, according to C. B. Tygert, Secretary, P. O. Box 178, Newark, N. J., promises an excellent, old-fashioned, country-cooked luncheon with all the "fixins'." Further details may be secured from the Secretary.

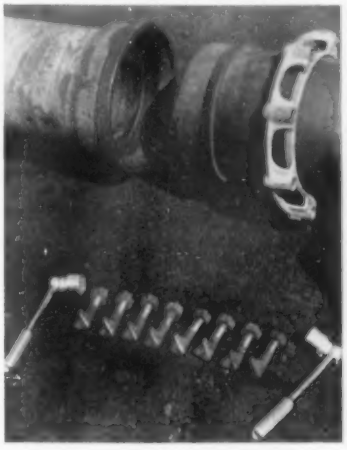
Beitzel of Penn Salt Heads Sales Managers

George B. Beitzel, Manager of Sales of the Pennsylvania Salt Mfg. Co., 1000 Widener Building, Philadelphia, Pa., in charge of the sales of products of the company, including those for water purification, swimming-pool sanitation, and other specialty products, has been elected President of the Sales Managers' Association of Philadelphia. He is well known in the industry, having been connected with Pennsylvania Salt Mfg. Co. for the past eleven years.

Ralph Hoffman Elected Link-Belt Official

Announcement has been received that, with a view to making the general office organization of Link-Belt Co., 307 North Michigan Avenue, Chicago, Ill., a more effective aid to plant sales managers, the Board of Directors has elected Ralph M. Hoffman a Vice-President, delegating to him the general direction and supervision of sales for the company. He is a mechanical engineer, graduated from the University of Minnesota in 1911, and has been an assistant to Alfred Kauffmann, President of the company, since January, 1940.

STOP
JOINT LEAKAGE



with CARSON
MECHANICAL JOINTS
• CHARCOAL IRON BOLTS •
for Cast Iron Pipes and Fittings also Leak Clamps
WRITE FOR PRICES
Carson-Cadillac Co.
1221 PINSON ST. BIRMINGHAM, ALA.

ARMY TWILL by REEVES SANFORIZED* MADE TO GOVERNMENT SPECIFICATIONS
REG. U.S. PAT. OFF.
REEVES Glengarrie POPLIN
Demand the fabrics bearing these labels.

"FROM COTTON TO CUTTER"

It's Reeves all the way! We spin the cotton. We weave, process and vat dye it. We SANFORIZE*. We sell the finished fabrics.

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4 **Tax Accounting In Montreal, Canada.**

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Capt. A. E. Higgins (second from left) at Columbia, S. C., Where He Flew to Attend the Southeastern District Sales Meeting of Pittsburgh Equitable Meter Co.

Pittsburgh Executive Flies Own Plane

Captain A. E. Higgins, Vice-President and Sales Manager of Pittsburgh Equitable Meter Co. and Merco Nordstrom Valve Co., 400 Lexington Ave., Homewood, Pittsburgh, Pa., has saved many hours' traveling time this winter by flying his new five-place Stinson. Only recently he completed a coast-to-coast tour by air to attend the various district sales meetings held by the two companies. The accompanying picture, taken during Captain Higgins' visit to Columbia, S. C., in January, shows W. S. Tomlinson, City Engineer, Columbia; Captain A. E. Higgins; Fred Swafield, Jr.; and F. G. Swaffield, District Manager.

A New Motor Grader with Hydraulic Controls

A new motor grader with hydraulic controls and powered with a 31-hp gas motor has been announced by the Austin-Western Road Machinery Co., Aurora, Ill. This new unit, which has a sturdy monorail box-type frame averaging 50 pounds to the foot, weighs approximately 8,000 pounds complete. It has five speeds forward ranging up to 14.8 mph, and one reverse speed.

The scarifier and blade lift of this new No. 55 are operated by a hydraulic control such as is used on machines selling at much higher figures. The side shift and circle reverse are hand-operated from the cab. Other design features of interest include: a wide front axle with ample ground clearance to straddle windrows; front wheels spaced to track with the rear drivers; rugged draft beams with ball-joint connection; a large-diameter circle and heavily braced blade supports. Standard equipment includes an 8-foot blade, hydraulic wheel brakes and a parking brake. Optional equipment includes an electric starter, horn, lights, canopy-type cab, 10-foot blade, V-type scarifier and snow-plow.

New Advertising Head at Keasbey & Mattison

John H. Dingee has recently been appointed Advertising Manager for Keasbey & Mattison Co., Ambler, Pa., manufacturers of asbestos and magnesia products, including Century asbestos-cement pipe for water and sewer lines and Century asbestos slate singles.

The New Austin-Western No. 55 Power Grader with Hydraulic Controls

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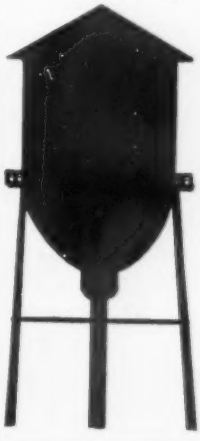

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T. R. Johnson

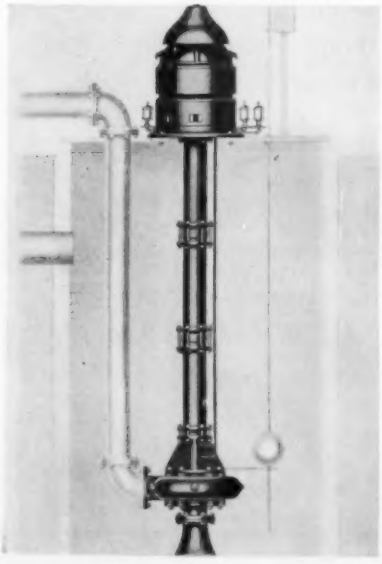
Johnson, Sales Manager of Keystone Products

T. R. Johnson has been appointed Sales Manager of the newly formed Keystone Asphalt Products Co., 43 East Ohio Street, Chicago, Ill., a division of the American-Marietta Co., of the same address. Mr. Johnson has long been identified with the paving industry and for the past ten years has specialized in expansion joints. He was formerly connected with the Servicised Products Corporation, Chicago, Ill.

Keystone Asphalt Products Co. will manufacture a complete line of asphalt, fiber and cork expansion joints, as well as other paving specialties, including sewer compounds, subgrade felts, asphalt planking, waterproofing and sheathing board, along with several other types of asphalt products for the highway industry.

Non-Clog Sump Pumps for Wet Underpasses

A new intermittent-duty sump or bilge pump designed for municipal and highway installation, including the disposal of surface or storm water at underpasses or from deep basements, has been announced by Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago, Ill.



The Suspended Type F-M Non-Clog Sump Pump

These new pumps are available in 2-, 3-, 4- and 5-inch sizes for capacities up to 1,400 gpm and for heads up to 120 feet with settings up to 25 feet. The pumps in the larger discharge sizes handle solids up to 3 inches in diameter.

The installation of these F-M 5410SS pumps requires no dry, watertight pump pit, as the pump is suspended from the floor level into a sump. Multiple pump units may be suspended in one sump where large variation in flow requires reserve pumping capacity.

An attractive 14-page Bulletin, APB 240.10, describes this complete line of sump pumps and may be secured direct from Fairbanks, Morse & Co. by mentioning this item.

Elgin Corp. Elects New Vice-President

At the annual meeting of the Board of Directors of The Elgin Corp., 501 Fifth Ave., New York City, in January, C. W. Barnthouse, of Toledo, Ohio, was elected Vice-President, with headquarters in Chicago, to succeed the late A. M. Anderson. Mr. Barnthouse entered the employ of The Elgin Sweeper Co. shortly after the close of the first World War. After some experience as a service inspector, between the Mississippi River and Pacific Coast, he became a distributor in the Ohio territory for The Elgin Corp., in which capacity he has served successfully for over nineteen years.

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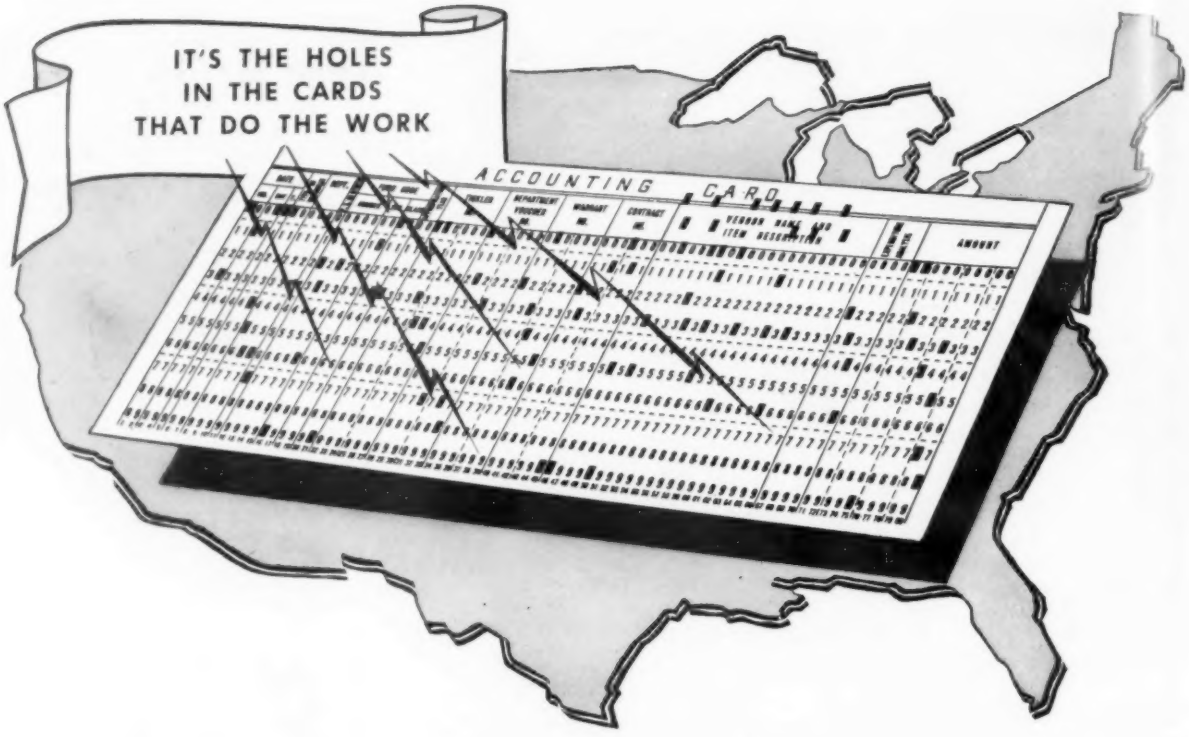

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The New Grippon Nozzle Holder

New Nozzle Holder for Fire Fighters

Slow-acting screw plates and playpipe cones for holding fire nozzles in place on trucks may now be replaced by the Grippon Nozzle Holder, manufactured and sold by the American-LaFrance-Foamite Corporation, Elmira, N. Y. This holder is quick-acting, and may be used for clamping any type of nozzle, playpipe, coupling, adapter, hydrant connection or siamese having a 2½-inch opening. It grips the appliance so securely that it is not readily jarred loose, and yet the manufacturer reports that the design of the holder makes it possible to remove an appliance instantly. It is not necessary to screw or unscrew the appliance, but to either mount or release it a handle is merely pressed down.

The Grippon holder may be attached to any flat surface in a few minutes, only four bolts or screws being required.

Sewage-Gas Meters

Sewage gas consists chiefly of methane, carbon dioxide, and a small amount of hydrogen sulphide. The parts of a sewage-gas meter must be made of special materials to resist the action of these gases. Sprague sewage-gas meters, made by The Sprague Meter Co., Bridgeport, Conn., are made of nickel steel, lead, glass, tinned bronze, special semi-chromed leather, all enclosed in a cast iron case. The interiors of the casings are painted to fully resist the action of this gas.

Sprague meter cases are made of cast iron and consist of the center, front, back, top and index box castings. There are large condensation chambers in the top gallery, completely draining all gas ways and keeping the valve mechanism free from the detrimental effects that condensation may have. Also, similar chambers in the bottom take care of all drip. A special process of re-chroming diaphragm leather, and a semi-chrome diaphragm which outwears a vegetable tan diaphragm two to one, have been developed by The Sprague Meter Co. The simplicity of the mechanism within the meter makes for accuracy, low pressure loss, and long life. Bulletin No. 16A on Sprague gas meters may be secured direct from the manufacturer by those interested by mentioning this item.

The Fireman's Job and Making It Easier

Today, fighting fires is a profession, and firemen understand that cotton rubber-lined hose must be hung up and the jackets carefully dried. It is also true that they know that wet hose must not be put with dry hose or it will dampen the dry hose and start mildew. Mildew once started is just about as damaging as sulphuric acid. A radical change in fire hose construction has been made by Bi-Lateral Fire Hose Co., 20 North Wacker Drive, Chicago, Ill., leaving the inner rubber lining free and unattached from the jacket at both points of fold. This permits the rubber lining to protect itself from creasing or compression, and puts an end to cracking, leaking, pin holes or seepers. It is possible to load 25 per cent more Bi-Lateral fire hose on the apparatus bed, which makes an $8,000 truck loaded with this hose cheaper than one priced at $7,000, according to the manufacturer.

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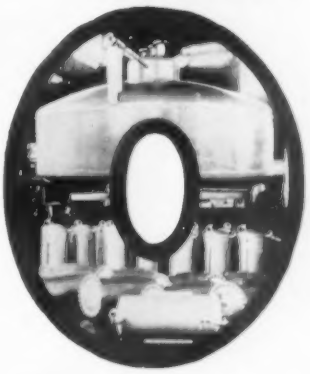

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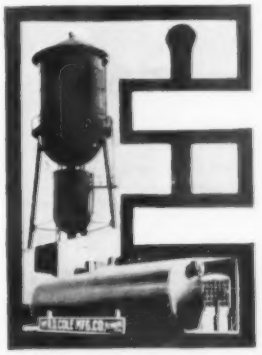

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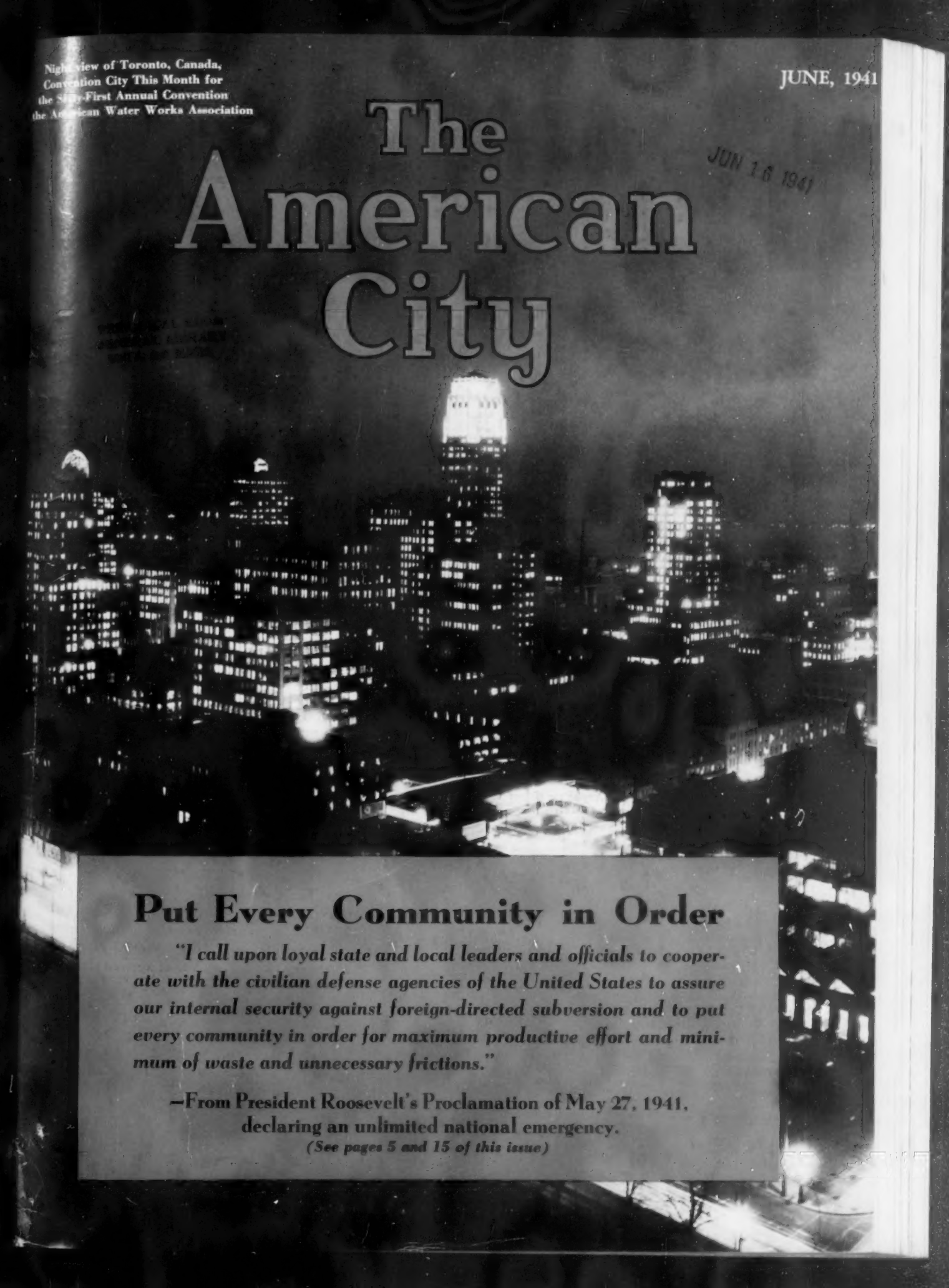

Night view of Toronto, Canada, Convention City This Month for the Sixty-First Annual Convention the American Water Works Association

JUNE, 1941

The American City

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(See pages 5 and 15 of this issue)